



# SETTING UP THE XH15

Ron Reed

# XH15 Setup & Operation

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# XH15 Setup & Operation

## 1. Introduction

This document has been prepared for personal use by a Blue Tongue XH15 owner but is being shared for XH15/XH13 owners as a helpful guide and reference in the setup and operation of their Blue Tongue camper and is shared on a no-liability basis.

Don't waste trees printing this just put it on your tablet or phone for occasional reference.

The document is written as a generic guide on how to set up and operate a Blue Tongue XH15/XH13 hybrid caravan. For technical and support you should direct such queries to Blue Tongue Campers themselves – (02) 8544 0976 or [sheree@bluetonguecampers.com.au](mailto:sheree@bluetonguecampers.com.au).

The manufacturers of Blue Tongue campers are not party to this document.

The authors take no liability for damage or injury occurring as a consequence of anyone following these instructions.

If anyone has comments, corrections or suggestions I'd be please to hear from you. DM me.

Special thanks go to Barry & Pauline from the **Blue Tongue Campers Unplugged Facebook Group** who have kindly helped with suggestions and by proof reading this document.

## Disclaimer

The document is not written by the manufacturers of the XH15/XH13, Blue Tongue Campers, and any information here-in is based on published product documents, usage and experience.

Blue Tongue XH15 (and XH13) hybrid campers come as a base model which can be optioned up. The Blue Tongue build configurations will also vary from time to time over the product life cycle and thus changes may not necessarily be reflected in this version of the document. Similarly, this document does not seek to explain how every option made available by Blue Tongue Campers or 3<sup>rd</sup> party add-on operates. They are beyond the scope of the document.

Information, diagrams and specifications reflect a point in time understanding of the XH15/XH13. Refer Version details (see date/version).

## NOTES:

The contents of this document are merely an opinion of the author.

It is quite possible that some of the information published here may be inaccurate.

The location references of equipment in this document, eg front nearside bin, are those of the author and owners of other vans will likely have packed their equipment differently.

This document is only informational and should not be construed as professional advice.

The build of the Blue Tongue XH15 and XH13 use 3<sup>rd</sup> party products which are beyond the control of both Blue Tongue Campers and the author.

# XH15 Setup & Operation

Information in this document has been sourced from published documentation from

- Blue Tongue Campers Owner Manual 2020
- Thetford (toilet)
- Victron (electrical management)
- PYLON Tech (lithium batteries)
- Renogy Australia (inverter)
- Seaflo (water pump)
- Cruisemaster (hitch)
- Awnlux (awning)
- Truma (hot water system)
- Dometic (stove)
- Aussie Traveller P/L (door)
- Finch Australia (HB9000 aircon)
- Linsar (TV)
- Happy Wanderer (DT8 TV antenna)

Your camper may have different components.

## 2. XH15 Summary

Our baseline build & fit out completion – 16 November 2022. This XH15 configuration forms the basis for the setup and configuration outlined in this document. Your rig will likely differ.

### Standard Inclusions

- Gun metal grey
- DO35 3.5 tonne all-terrain coupling (option)
- Truma ultra-rapid hot water system (gas/240v)
- 1 x 200lt Fresh water tank with gauge
- 1 x 130lt Grey water tank with gauge
- Seaflo water pump – max flow 13.2 lpm
- Side mounted pull out awning
- HB9000 Reverse cycle air conditioner mounted under seat
- Caravan pressurisation system
- Internal shower with roof mounted vent
- Outdoor shower with trigger rose
- Thetford cassette toilet
- Slumberest Slimline Luxury Cloud Nine Mattress
- 2 x 200W Roof mounted solar panels
- Dometic PI8023 3 burner gas stove
- Stainless steel sink
- External gas point
- 3 x 100AH Lithium batteries
- Renogy 2000W pure sine wave inverter
- Victron Orion-Tr Smart 12/12-30A Galvanic Isolated DCDC charger

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- Victron IP67 AC Charger
- Victron Battery Monitor BMV-712 Smart
- Victron Smart Solar MPPT 100/50 12v
- Electric lift roof with manual override
- Wind up and down TV antenna
- TV (12v/240v) with DVD player & USB port
- Digital media player with AM/FM/CD/MP3/Bluetooth
- 2 x spare wheels with 265/75 R16 Mud terrain tyres
- 2 x rear recovery points with HD shackles
- 2 x 4kg Gas bottle holders
- Multiple 12V outlets inside & out/USB & accessory sockets
- 240V outlets
- 15A 240v input
- 50A Anderson plug for vehicle DC inputs
- Annexe – roof, walls, wind flaps, floor, poles, ropes & pegs
- Anti-flap kit
- External Shower tent

## We added

- Drawbar bubble level
- Dometic CFX3 75DZ fridge/freezer
- 2 x 4kg Gas bottles
- Gas bottle gauge with LCC27 valve & type27 connection
- Spare NTN replacement bearing kits & lithium grease
- Yellow/white LED light bar in the cooking area
- Sullage hose
- Fresh water filter & fittings – tank & mains
- Replaced toilet cassette door with black frame
- Replaced 15a power inlet with Clipsal black fitting
- Coiled breakaway trailer cable
- Wheel covers
- Rear wheel rubbish bag
- Reflective tape down sides of bed pullout
- Kitchen fit out
- Labelled all light switches
- Solar blanket (350w)
- Campfire lighting & battery pack
- Campfire Hill Billy frying pan
- Eye bolts as tiedown points in generator slide

Plus lots of other stuff ...

# XH15 Setup & Operation

## XH15 SPECIFICATIONS

### DESIGNED USE:

Off road touring

### BODY PROTECTION:

Underbody Sealer, Proof Coated & Mud Flaps

### BRAKES:

12" Electric Drums with a Mechanical Hand Brake

### CHASSIS:

RHS Galvanised 100\*50\*4mm

### CONSTRUCTION:

Fully Aluminium RHS frame with composite panel cladding

### COUPLING:

DO35 Hitch 3.5T

### DRAWBAR:

RHS Galvanised 150x50x3mm Q345

### JOCKEY WHEEL:

ARK Off Road Twin Jockey 750kg

### STABILISERS:

4 x 'drop down' adjustable legs

### STONE GUARD:

Padded Vinyl Guard

### SUSPENSION:

Independent Coil with ??? Shock Absorbers.

### TRAILER STORAGE:

Multiple storage compartments

### WARRANTY:

5 Year drawbar and chassis, 1 year on Caravan body & fittings, appliances at manufacturer's warranty

### WEIGHTS:

Tare: 2100kg – ATM: 2700kg – Pay Load: 600kg

### BALL WEIGHTS:

176kgs Empty

### WHEEL/TYRES:

265/75 R16 Mud Tyres on Steel Rims

2 x Rear Mounted Spares

## DIMENSIONS

### FRIDGE SLIDE AREA:

975mm Long x 560mm Wide x 650mm High

### GENERATOR SLIDE:

705mm Long x 495mm Wide x 650mm High

### TOWING SIZE:

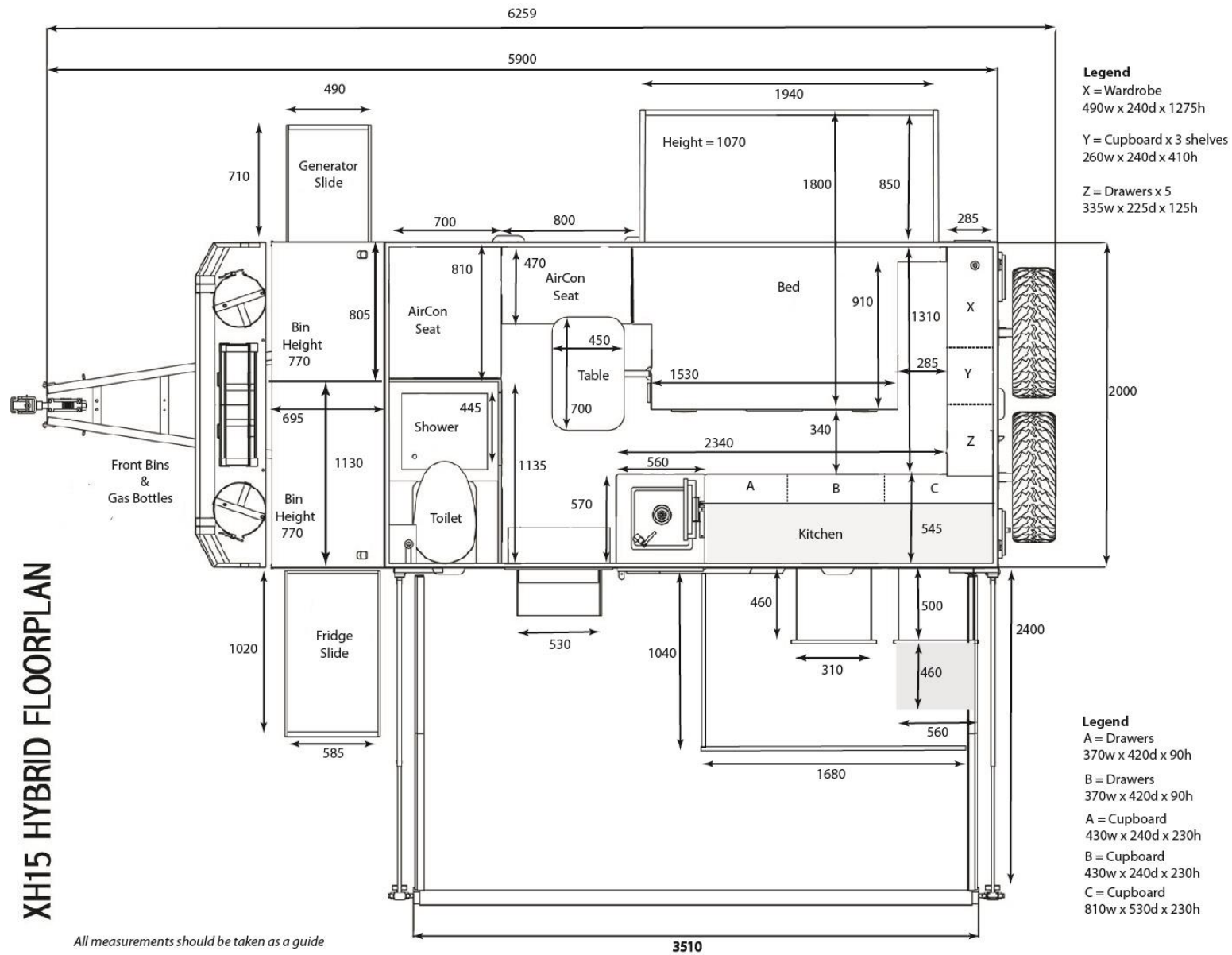
6500mm Long x 2200mm Wide x 2450mm Tall

### WHEEL TRACK:

1775mm



# XH15 Setup & Operation



# XH15 Setup & Operation

## 3. Camper Setup

### 3.1. Siting

Before starting any levelling, find a good campsite. Try and get a level or near level site, clear of trees. You don't want branches falling on you.

Check you are not on top of an old fireplace or there are ants everywhere. Similarly, you want to block off wind coming into an open doorway. Orient accordingly. And last, but not least, you don't want shade as that will affect the operation of the solar panels.

### 3.2. Levelling

Sitting on the drawbar is a T bubble level (not provided by Blue Tongue Campers). Make sure this is correctly calibrated before you start referring to it.



The bubbles show the inclination of the camper on the axis.

The main bubble to concentrate on is the one going **ACROSS** the camper. This indicates the difference in the height of the wheels and thus whether blood will flow to or from your head in bed or whether water will flow down the plug hole in the shower & not pool at one end ! Be aware that the roof line on the XH15 is convex and water will naturally run off in all directions. If it is likely to rain you might consider a slight tilt so that water on the roof runs away from the door side – bit like dropping a corner on the awning.

To level the camper you'll need to use a ramp and chocks but these are not supplied as part of your Blue Tongue purchase. You only need to carry a single ramp but will likely need several chocks.

### 3.3. Levelling on the Ramp

If the (across) bubble is **nearest** you it means that the side you are standing on is higher than the other and you have to **place the ramps under the wheel on the other side** to lift that side up.

If the bubble is on the other side of the T then your side is lower and you have to put the ramp on your side.

Place the ramp at the wheel.

Once the ramp is in position, depending on orientation, back up or drive onto the ramp. Check the orientation of the bubble as you move onto the ramp. **You are level when the bubble is positioned between the black lines.**

Stop and place chocks to prevent the camper moving/skewing. One chock under the wheel on the ramp, another one or two on either side of the other wheel.

When positioning the chocks, kick them tightly into place to lock the wheel from moving. If not tightly positioned the camper can skew and change the levels when you unhitch.

### 3.4. Finalising the Setup

Now apply the hand brake, tightly.

# XH15 Setup & Operation

Get the Jockey wheel winding handle and also the black jockey wheel pad (self manufactured).

Pull out the blue handle on the jockey wheel and drop the jockey wheel until it locks down.

Position the wheel pad under the wheel. This will stop any movement when the jockey wheel takes the weight of the camper.

Disconnect the cables to the car – anderson plug and lights.

Disconnect the shackle on the break-away connection.

Attach the winding handle to the jockey wheel.

Uncover the connection on the DO35 hitch.

Press the pin in and slide the lock backwards to open the connection pin.

Wind **UP** the winder so that the lock lifts off the connection pin. Give plenty of clearance for when you drive off.

Undo the shackles on the chains.

Move the car away from the camper.

## 3.5. Levelling the other axis

To finalise the setup you need to adjust level of the other axis of the camper, the axis that runs the length of the camper. This is adjusted by the height of the jockey wheel.

If the bubble is up near the “across” bubble then the front of the camper is **HIGH** and you must wind down the height of the jockey wheel. If the bubble is at the other end, then the front is too low and the jockey wheel must be wound UP.

When the bubble is centred stop winding. The camper is all level.

## 3.6. Lowering the Support Legs

There are support legs on each corner of the camper.

Drop these down **vertically** and ensure that the pads are flat. You can expand the footprint with some wood blocks. You may need to dig out under the legs to ensure they are vertical.

The winder for these units is provided by Blue Tongue in your kit. **Don't use an electric drill !**

Wind down each leg until they firmly support the camper. **You don't want to be lifting the camper** just firmly supporting. It's the wheels that provide the main support for the camper.

The basics are now complete. Likely you can now raise the roof, put out the awning and open the kitchen .....

# XH15 Setup & Operation

## 4. Roof Lift & Awning Setup

There are 2 parts to the setup

1. Releasing the awning to raise the roof
2. Rolling out the awning to provide shade and/or protection from sun or rain

### Roof Raised



### Awning setup



# XH15 Setup & Operation

## 4.1. Understanding the Awning Setup

Before setting up your awning there is a YouTube video recently produced about setting up the awning by David at Blue Tongue. You'll find a couple of good tips in this clip. Review the video

[Blue Tongue XH15 Awning Setup; Hints & Tips. - YouTube](#)

You can also view one for an *Emu Expedition*. This is a camper almost the same as the Blue Tongue so you are encouraged to view this video also

<https://www.youtube.com/watch?v=DfEenuy5wZE>

They mention in the video about setting levels on the leading end of the awning with red tape so that the awning doesn't twist. Check to see if this is helpful in your case.

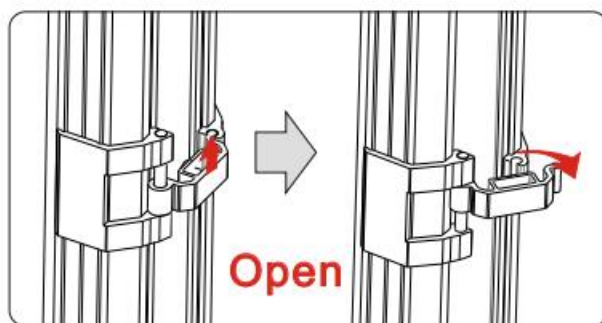
The following diagrams come from the **Awnlux manual**.

## 4.2. Releasing the Awning to Raise the Roof

The awning is locked for travel. To raise the roof the awning must be released from the lock and drawn out from the camper ½ metre so that you can undo the latches which hold the roof down.

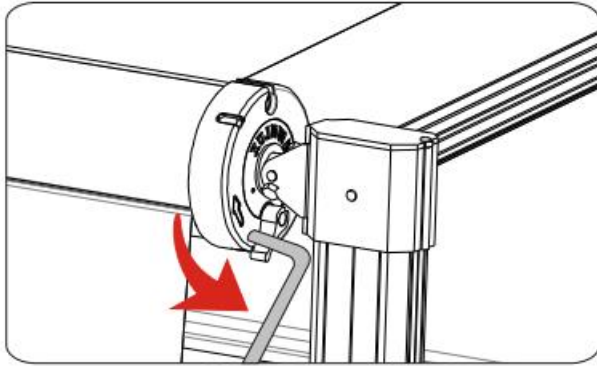
To release the awning

1. Undo the Velcro on the awning arm. A handy place to put them is on the support post to the right of the door.
2. Release the arm lock on each side of the arms – slide the inner part up to unlock. Push out of the way.



3. Loosen off the wheel-locks knobs on the inside of each arm.
4. Turn the spring lock **DOWN** to release the mechanism (think “Down and Out”). You actually have to push the lever towards the rear of the camper. If the lever was positioned at the front then **DOWN** would be correct. *{the following diagram is not quite accurate but it does show the release direction}*

# XH15 Setup & Operation



5. Extend the arm on the right hand end. Drag it out. That should draw down the left hand end also but if you have a helper, they can do that. There's a ratchet noise as you undo the awning roll.
6. You just need clearance of the locks
7. Undo the locks at the front and back on both sides of the camper (4 in total). Squeeze in the safety spring on the right of the lock to release the latch.
8. Inside the camper, on the right, just inside the door, is the **RED roof power switch**.
9. Switch the **power ON** - (the universal symbols - line "|" for "on" and circle "○" for "off" (typically without serifs)
10. The **BLACK switch (ROOF)** is for raising & lowering the roof.
11. Select the **upwards direction** for the **ROOF** switch and press.
12. The roof will raise until it is fully lifted. The motor will then cut out. The awning will unfold a little as the roof raises at the same time. Make sure it is ratcheting otherwise you need to flick the springlock switch on the awning barrel or the awning mechanism will be damaged.
13. Switch off the **RED roof power switch**.

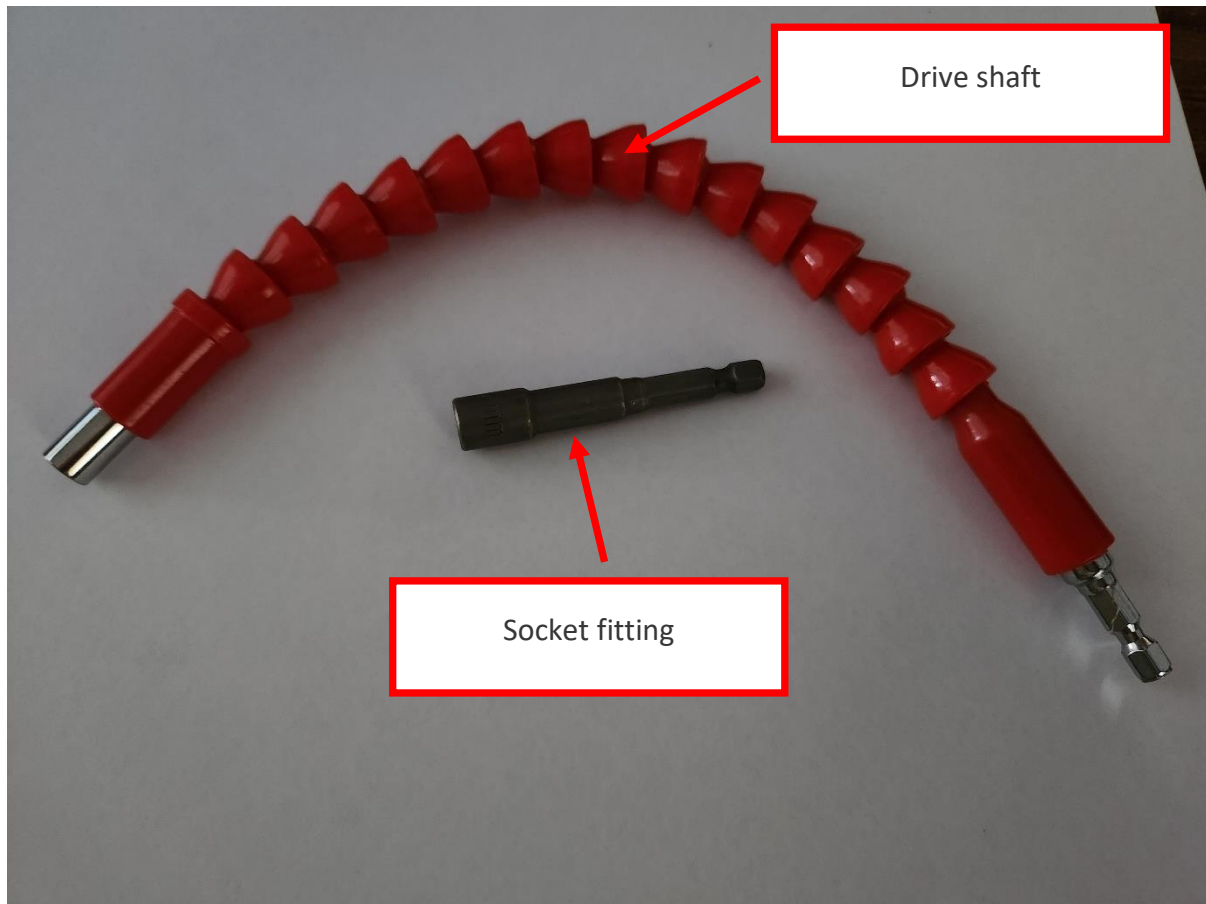


## 4.3. Power Failure and Manually Raising/Lowering

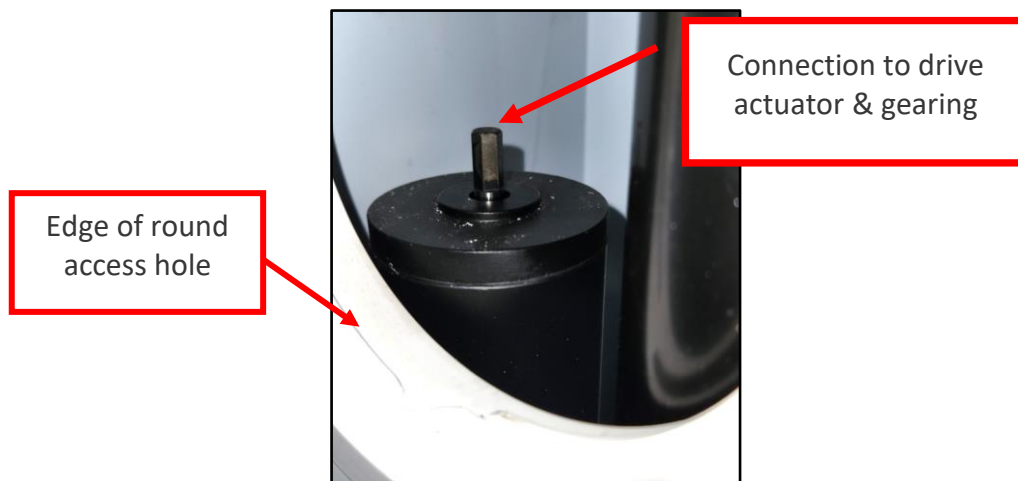
If there is no power and you have to raise or lower the roof you will need some special tools, namely an appropriate socket fitting, flexible screwdriver and a power drill to raise or lower manually. Fitting is with the tools in the passenger side front bin.



## XH15 Setup & Operation



There are two locations to manually raise or lower the roof, inside the shower/toilet in the front passenger side corner. You will see a round cover. Remove it to access to the internals. The opposite end of the camper at the driver/rear, inside the wardrobe you find a similar cavity.



Take your time and go slowly with the drill. Do a bit and observe the change in the roof to make sure you are screwing the correct direction then go to the other end. Repeat. Re-do the process several times until the roof is in the required position.

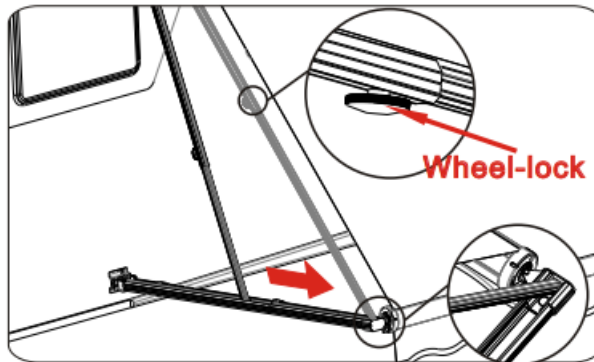
# XH15 Setup & Operation

## 4.4. Extending the Awning

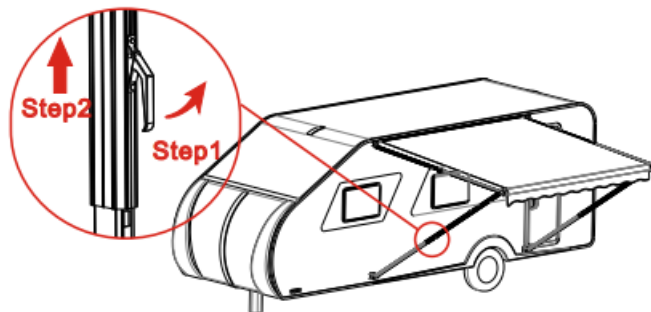
The assumption is that you are extending the awning. If you don't want to do that then stop the process now. The awning arms should be vertical.

To extend the awning

1. Drag the arms all the way out. The mechanism should be ratcheting as you do this. If not, the springlock needs to be flicked down
2. With the awning fully extended the bracing arms will be exposed. Move the arm to the top of the awning, the end of the fabric roller. The arm clicks over a round button.



3. Tighten the wheel lock knobs on each side.
4. You can now lift up each arm by opening the handle lock on the outer arms and pull them back up. There are stops which you slide the silver stoppers into the inside arm. The mechanism operates a bit like a trigger. There are cut outs every few centimetres to slide the silver pin into lock the position.



5. Lift a few "stops" each side until the awning has been raised to the desired height. You don't want to twist the awning.
6. Adjust the necessary height. Best height is when the lock is in the **15<sup>th</sup> stop** (metal cut out) but be careful to make sure the left & right notches have the awning level. You might have to add a couple more to the left side.
7. Close the handle-lock once the awning has been raised to the desired height.
8. Secure the awning

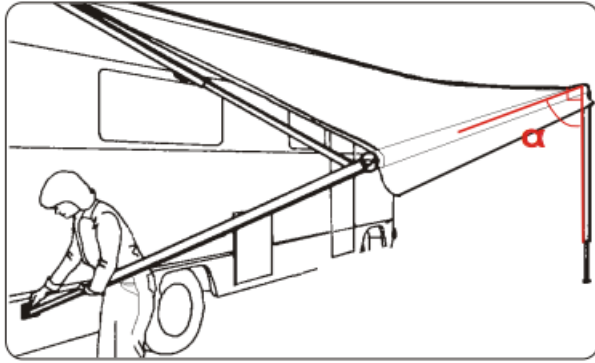
## 4.5. Free Standing Awning (Optional)

You have the option of unlocking the arms from the camper and standing them vertically.

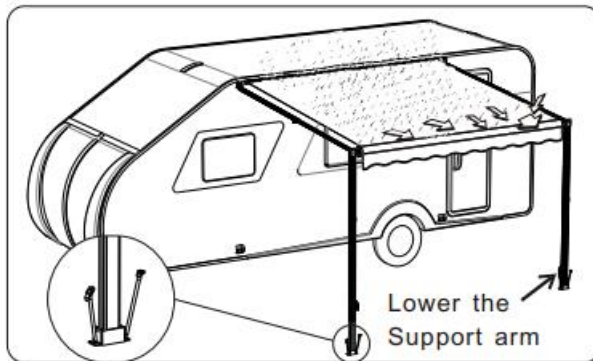
1. Where the arms attach to the camper press the lever to unlock the arm from the camper.



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2. Pull the arm free and position it vertically.
3. There needs to be some slope on the awning to allow any rain to run off. Adjust the height accordingly.
4. Peg the post to the ground. There are 4 special pegs with yellow tops which come with the camper which go into the bottom plates of the awning posts. Two each post.



5. Secure the awning

## 4.6. Securing the Awning from Wind

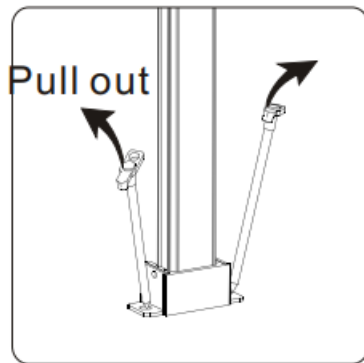
1. **You need to do this !**
2. Tie a tie-down strap over the end of the awning barrel. You'll have to purchase a set as they are not in the kit provided – Aldi have some @ \$6.99, otherwise get some from Supercheap or Bunnings. For the Aldi straps undo the buckle, loop the strap over the awning barrel and then through the silver D ring. Clip to the extension strap. These straps are special yellow straps with springs attached and stored in the tent pegs bag, tunnel bin. For normal tie-down straps just loop the end over the awning barrel and loop the hook end onto the strap.
3. Fix the spring end of the strap into the ground with a peg about 50cm out – recommended option is a screw in peg or just “over peg” the first one. Drive the pegs into the eye of the spring.
4. Tighten the strap to a firm tension at the buckle.
5. Repeat for the other end of the awning.

## 4.7. Closing up the Awning

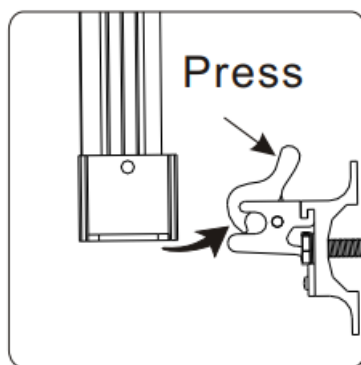
Assuming the awning posts have been detached from the camper.

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1. Pull out the pegs from the bottom plate



2. Lift up the outer arm and return it to the bottom bracket on the camper sidewall
3. Press the lever to open the lock to accept the outer arm

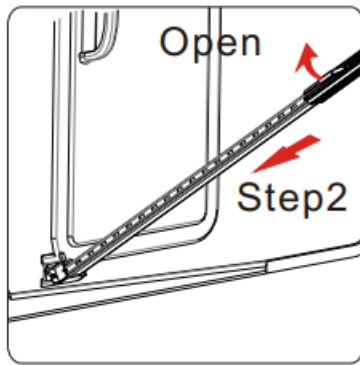


**PART 2:** Now, if the arms haven't been placed out vertically you can commence to close up the awning.

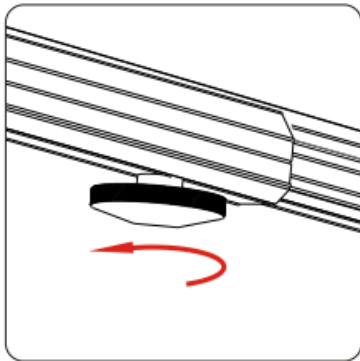
1. Open the handle-lock and hold the silver trigger to allow the outer arm to slide down over the inner section until it drops down to the base. **Take note:** The rear arm retracts to the base but to prevent twisting of the awning you only need to drop the front arm 3 slots from the bottom – check your positioning, see also the video mentioned earlier in this section. I've marked this by putting white electrical tape around the retracting arm.



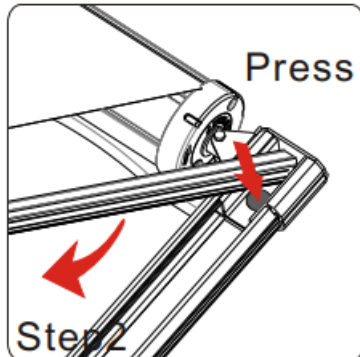
## XH15 Setup & Operation



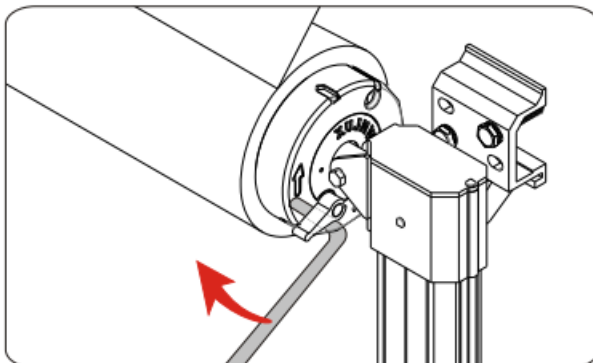
2. Undo the wheel lock on the upper arm



3. Press the button at the top of the outer arm, at the awning barrel. This releases the upper arm. Can be a bit difficult.



4. Slide the upper arm back down the outer arm to the base.
5. You might need to apply some downward pressure to the arm so that the clock spring lever isn't locked tight. Turn the clock spring lever forward, towards you (or **UP** if the lever is on the front of the awning roll), to release the lock so that the awning retracts – think **UP and IN**



# XH15 Setup & Operation

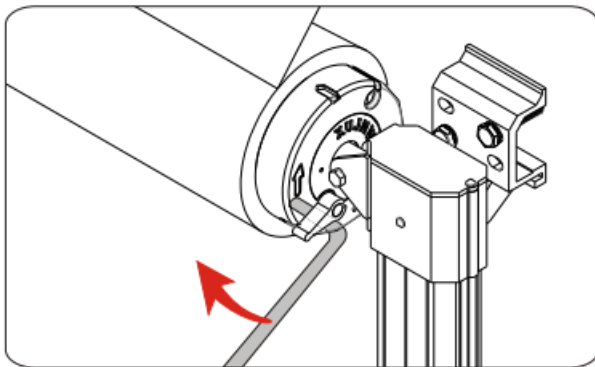
6. Gently allow the awning to retract and roll itself up. Best one person at each end to guide things.

Be aware that the roof is likely to still be raised. When you want to pack that up you will have to do the next part of the closure process.

## 4.8. Closing the Roof

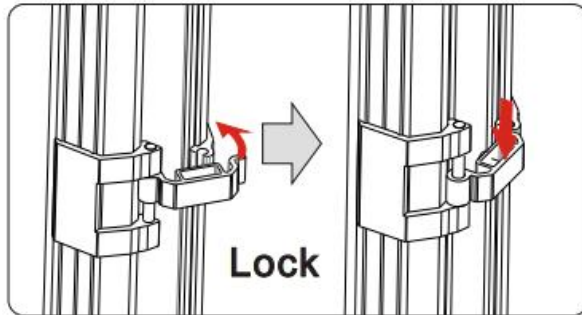
When the awning returned to the closed position it may have “locked” and you now have the situation where the roof is raised and the awning unit has closed against the camper wall. You have to retract the awning as the roof is lowered.

1. As a starting position, open the roof latches and position them vertically so that the clasp is raised, ie the red handle is pushed up. Don't have them pushed out as that will cause issues. When the roof descends it will be positioned for you to close the locks.
2. Go inside the camper and switch on the **RED roof power** switch.
3. Press the **BLACK** roof switch **DOWN**. The roof will lower until it is closed and it will then cut out.
4. The awning will retract as the roof lowers.
5. Switch off the RED roof power switch
6. If the awning has some slack in it or you need better access to the roof locks you will need to undo the spring lock (**DOWN is OUT**) again and manually pull the awning free a little bit to give you access to the roof locks (4) or to pull some of the slack out of the awning
7. Close each of the roof locks
8. Reverse the direction of the spring lock so that the slack in the awning is taken up (**UP is IN**)



9. The awning should retract to the wall of the camper and lock
10. Tighten the wheel lock knobs
11. Lock off the outer arm lock

## XH15 Setup & Operation



12. Secure the Velcro straps – attached to the support post beside the door.

**Check that the awning has been securely locked away and there is no slack in the fabric.**

### 4.9. Awning Extensions

The XH15 comes with awning extensions which allow you to extend the ends and front of the awning for additional shade and weather protection. The extensions are part of the standard canvas kit and have a rope track to allow easy attachment to the awning.

### 4.10. Awnlux User Manual

You can download the user manual from [HERE](#).

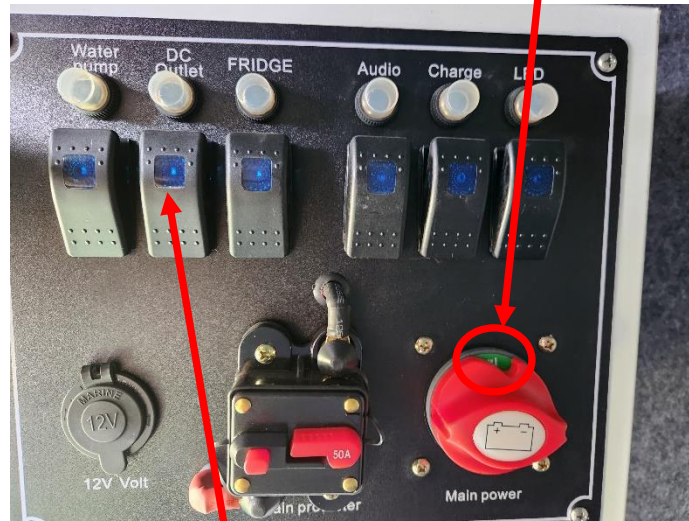
# XH15 Setup & Operation

## 5. Completing the Setup

### 5.1. Power to Everything

Open the switchboard (generator) bin.

If not turned on, switch on the master power switch – **RED**. Turn the switch **CLOCKWISE** to the position shown to switch the power **ON**. A green indicator is displayed.



Switch on all the power circuits. A **blue light** will show in the switch when the circuit is active.

**If 240v power is available** connect to the supply point. Connect the female plug into the camper on the driver side above the front bins. The cable needs to have 15a plugs. I also have a short 10a male plug adaptor to connect into the 15a cable for when at home with standard power points.

### 5.2. Gas On

Open the middle front bin and open the gas. Turn the handle in the direction shown on the handle. You will need the gas supply for cooking and hot water.

### 5.3. Hot Water

The XH15 can operate with either gas or electricity **OR** gas & electricity. **DO NOT OPERATE WHEN TRAVELLING.**

In the switchboard flick the switch **DOWN** on the “hot water” switch – your location for the switch may differ as this was a requested location.



# XH15 Setup & Operation

You must have the water pump turned on at the switchboard AND switched on with the switch in the upper left corner of the kitchen.

[Section 10](#) describes switching on the Truma hot water system.



# XH15 Setup & Operation

## 6. Switch Board

Open the driver side switchboard/generator bin to access the switch board.

It is here that you activate the power supply.

Here's the switch board

### Item List

1. Main power switch – **rotate 90° to the RIGHT to switch ON**
2. Main power breaker/reset
3. Power switches with breakers above
  - a. Water Pump – sinks, toilet, showers, drawbar tap
  - b. DC Outlet – 12v USB charger connections & socket connections, kitchen lights and toilet flushing
  - c. Fridge – 12v socket and Anderson plug connections, fridge light & fan
  - d. Audio – radio, CD/DVD/USB audio
  - e. Charge – is to illuminate and provide status of the battery voltage & water tanks on the control panel near the TV
  - f. LED – LED lighting (internal & outside perimeter)
4. 12v socket connection
5. Breaker resets for Roof, Fridge Anderson, Positive Pressure pump & the DCDC/Solar charger
6. 240v Breaker
7. 12v DCDC / Solar feed breaker
8. Hot water power switch

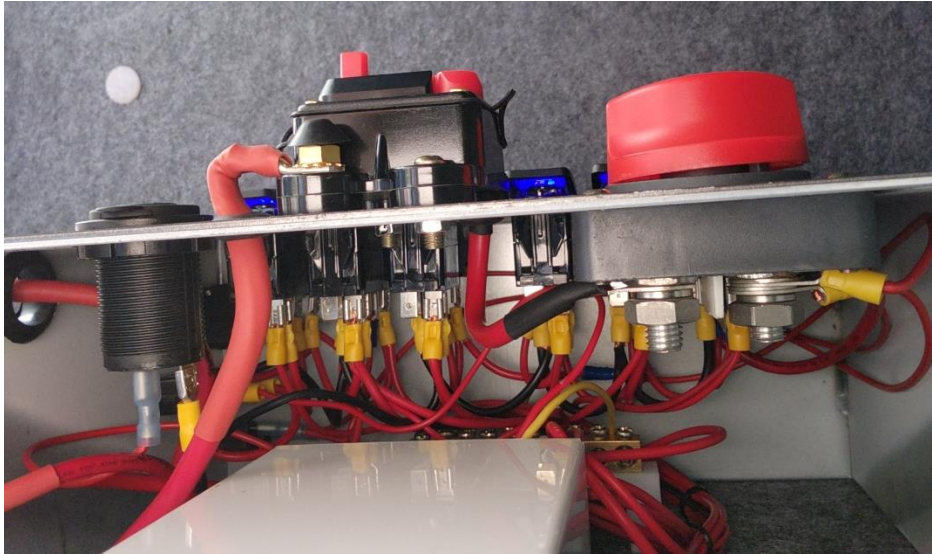


**Main power switch is ON**



# XH15 Setup & Operation

**As FYI:** This pic shows the complexity of the wiring in the switchboard from underneath. Keep clear. This is a place for auto-electricians.



Additional resets

# XH15 Setup & Operation

## 240v Breaker & Hot Water Switch



The resets replace the usual blade fuses. If something blows try pressing the reset but look for the reason something blew, ie a short.

**When packing up all the switches should be switched OFF unless running the fridge on 12v cigarette adaptor or anderson plug.**

When travelling the Victron DC-DC charger will be topping up the batteries via the anderson plug from the car together with solar from the camper roof.

When the camper is not in use (storage) turn the red main switch off (to left) and remember to charge the batteries via 240v if parked in undercover storage. The 240v charger will operate automatically to maintain the battery level. Solar will also be feeding the batteries of the camper if parked in the open (and not under a protective cover).

If in storage for quite some time, periodically check the level of charge in the batteries and top up, if required.

# XH15 Setup & Operation

## 7. Monitoring the Camper Status

Above the sink inside is a control panel which provides the status of

- Fresh water tanks
- Sullage/Grey Water tank
- State of Charge (SOC) in the batteries



Keep an eye on their status.

For this panel to operate the **CHARGE** switch in the switchboard must be switched on.

The panel throws out a lot of light at night. You might consider turning the **CHARGE** switch in the switchboard off at night.

# XH15 Setup & Operation

## 8. Toilet

### 8.1. Operation of the Toilet

The XH15 has a built-in Thetford C200CS toilet.

An exploded view and full instructions can be found by clicking [HERE](#).

All the necessary chemicals are in cupboard under the internal sink.

At the switch board, ensure the **Water Pump** and the **DC Power** are turned on. Switch on the water pump in the kitchen also.

Water pump is self-explanatory, the DC Power is required to power the flushing mechanism.

Check the level indicator on the top of the Thetford water tank. The warning light illuminates when the waste tank needs to be emptied. The lamp illuminates when the waste tank has 15 litres. This indicates that there are 2 litres capacity left, approx. 5 uses.

#### Before using:

Ensure the waste holding tank chemical (**BLUE AQUA KEM SACHETS**) are added to the Waste Holding Tank together with 2 litres of water.

#### Using:

Open the blade on the right-hand side (when seated) – move from back to front.

When finished, close the blade.

#### Flushing:

Make sure the blade is open.

Press the flush button and hold for several seconds. Close the blade.

### 8.2. Emptying the Toilet

Make sure the blade is **CLOSED** before opening the access door to remove the waste tank.

The waste tank must be emptied, at the latest, when the warning lamp is lit. It is advisable to empty the waste tank earlier. The warning lamp illuminates when the waste tank contains in excess of 15 litres. This indicates that a capacity of 2 litres is left, which will allow approximately 5 uses.

#### Note:

- Do not allow the waste tank to become too full.
- Make sure that the valve blade is closed.
- Open the access door outside.
- Pull the safety catch upwards and remove the waste tank.
- Carry the tank by the handles to a normal toilet or to a legal waste disposal site.
- Place the waste tank upright on the ground and turn the emptying spout upwards.
- Remove the emptying spout cap.
- Hold the waste tank by the upper handle nearest to the emptying spout.
- Hold the rear handle with your other hand so that you can operate the vent plunger with your thumb.

# XH15 Setup & Operation

- Keep the vent plunger pressed in to ensure the tank is emptied without splashing.
- The vent plunger should only be pressed once the emptying spout is pointing downwards!

After emptying, flush the tank and clean the valve blade thoroughly with water.

**Ensure you add the chemicals and 2 litres of water.**

Replace the spout cap.

Slide the waste tank into the toilet and close the access door.

For hygiene purposes, keep the unit clean. Recommend wearing disposable gloves.

## 8.3. Winterising

If you are not travelling for some time it is best to leave your toilet dry/empty. It is also recommended to leave the blade open and even pour a little bit of seal lubricant or olive oil over the blade to prevent the seal drying out.

Do not leave fluid in the waste holding tank.

## 8.4. Thetford User Manual

You can download a multi-language user manual which details the operation of the CS200CS from [HERE](#)

# XH15 Setup & Operation

## 9. Airconditioning

### 9.1. Using the Airconditioning Unit

To operate the aircon you **must be connected to 240v power**.

**DO NOT RUN OFF THE INVERTER AS IT WILL QUICKLY DRAIN THE BATTERIES.**

To maximise a cool breeze, undo the zips in the vinyl roofing and/or split the screen security door or open windows. Operate one or more 12v fan/s.

You **MUST** ensure that the trapdoor underneath the camper is opened before using the aircon. Similarly, close before departure.

The closed trapdoor to the aircon ducts



The aircon ducts when the trap door is opened.



The unit has a control panel mounted into the foot level panel of the seat. You can also operate the unit from a remote hand controller.

**BUT ....**

Before you can operate the Aircon unit you **must, MUST**, undo the vent beneath the unit from outside. A simple fastener keeps the vent covered and dust free whilst travelling.

# XH15 Setup & Operation



Undo the latch and let the door drop open.

You can then start the AirCon.

Adjust settings to your comfort, ie mode (hot/cold), temp and fan speed. The hand controller (remote) has many more mode options than the wall pad so refer to the manual provided.

**IMPORTANTLY, ensure you close the floor vent before travelling**

## 9.2. AirCon Operating Instructions

Operating instructions are in the HB9000\_Manual [HERE](#).



# XH15 Setup & Operation

## 10. Hot Water System

### 10.1. Using the Truma Hot Water System

Before doing anything with the hot water service open the vent on the driver side. Remove the white cowl cover also. Pressure with your finger as shown on the outside of the cowl.

The vent and cowl cover .....



Once the cowl cover is removed it exposes the grill.

Ensure the water pump is turned on – refer earlier powering up instructions.

You have 3 options:

1. Gas only
2. Electricity only – saves gas
3. Combined Gas & Electricity – quicker heating

Ensure the switch in the switchboard is turned on regardless of which source is being used.

If using gas, turn on the gas supply.

If using electricity, ensure 240v is connected.

If only electricity is to be used the hot water service will start once 240v power has been supplied. Don't touch the black Truma switch at the end of the bed if using electricity only.

If GAS ONLY is being used you must ignite the gas on the switch on the side of the bed. Press UP to ignite for 60° and DOWN for 70°.

**60° is quite hot enough.**



If the switch shows a **red light** on the Truma panel it indicates that the pilot did not ignite, switch off and leave for a few mins and then try again. The gas failed to ignite. If this issue reoccurs try turning on a burner on the stove to bleed any air out of the gas lines.



# XH15 Setup & Operation

For a faster heating up period the hot water system can be simultaneously operated with both gas and electrical power – 28 mins vs 44 mins for just gas or electricity.

Full instructions on starting up the Truma Ultra Rapid unit can be found in your manual.

**NOTE 1:** Many owners have issues keeping the flame alight on gas. Members of the Blue Tongue Facebook pages (Unplugged) have suggested solutions about how to seal the unit because of the stippled finish of the external camper walls (use a gasket sealant). Search for “truma” and the “Joe and Rossy” thread where Zac Henderson has some answers - check out his solution.

Another issue can be the angle of inclination of the unit when it is installed and attached to the floor/walls. This issue is mentioned in the second (fix) video. An angle of inclination of 10° of the unit should not be exceeded (Truma manual). Some packing may be required to achieve a level unit depending on the installation in the camper, ie floor and wall trueness. Keep in mind that levelling may also be needed when setting up the camper so that the camper's (and read the Truma's) angle does not exceed that 10°, ie having the camper level on a ramp/jockey wheel in terms of pitch and roll.

There are also a couple of videos about the Truma flame out issues. Check these out

[TRUMA Ultra Rapid FLAME OUT Problem SOLVED! - YouTube](#)

*And the solution .....*

[TRUMA Ultra Rapid FLAME OUT Problem solved PROPERLY! - YouTube](#)

**NOTE 2:** Maximum water pressure is 400kPa – anything above that needs a pressure reducing valve installed.

**NOTE 3:** Don't forget to descale your hot water system annually. Over time calcium (or scale) builds up in your hot water system and affects performance. Here's how to descale your hot water system.

[Descaling your Truma Hot Water Service - Masterclass #120 - YouTube](#)  
[Descaling your Truma Hot Water Service - Masterclass #120 - YouTube](#)

## 10.2. Truma Operating Instructions

You can download the user manual on setting up and operating the Truma 12/240v UltraRapid Hot Water unit [HERE](#).

# XH15 Setup & Operation

## 11. Kitchen Lights

The lights above the kitchen +bench area will have power to them when you switch on the **DC POWER** (note – NOT LED lights) in the switchboard. You will need to also switch on power to the lights – right switch for lighting in the area with the power points in the kitchen. The light switch has a blue indicator light showing when it has power and been switched on.

However, there are no switches to turn the lights on per se, they are both ambient light & proximity sensitive.

The downlights over the sink & stove will only come on as it gets darker in the evening. Wave your hand under the lights above the kitchen bench to turn them on. Wave again to turn off – takes a bit of working out. There is also one of these light & proximity lights in the fridge bin. These lights will automatically timeout to save power.

We also have a LED strip light installed under the kitchen awning. To use that you also need to have power to the kitchen lights – switchboard & switch (right hand one) at the upper left of the kitchen power panel with blue indicator shining.

Mounted on the kitchen awning panel is a press button switch that controls the strip light. It controls

- On/Off
- White/White+Orange/Orange lights
- Up and down for light brightness

# XH15 Setup & Operation

## 12. Using the Stove

### 12.1. Stove Operations

Before you can use the stove 2 things need to occur

1. **DC Power** is switched on the switchboard – for the ignition
2. Gas is turned on at the gas bottle

To operate

1. Lift the glass lid and sit the saucepans on the appropriately sized burner.
2. Turn on the gas
3. Press the starter button
4. Adjust flame

Close lid after you finish cooking and burner has cooled down.

To provide working room in the kitchen area, pull out the kitchen bench drawer unit, right hand drawer under the kitchen area.

### 12.2. Dometic Operating Manual

You can download an Installation and Operating Guide for the PI8023 cooktop [HERE](#).

# XH15 Setup & Operation

## 13. Fridge

This is a critical area in everyone's camper.

A couple of things to keep in mind.

1. Make sure your fridge is tied down in the fridge slide so that it doesn't slide or bounce around while travelling.
2. Make sure the fridge slide is locked otherwise you may have the fridge slide damaging your door as you turn corners.
3. While travelling, have the fridge fan running. This runs off the "fridge circuit" on the switch board. Ensure the **FRIDGE** switch is switched on.

Whilst base camped keep your fridge door open to aid air circulation with the view to reducing the cycle times of the unit and thus the draw on your batteries. You can also cover the door opening with a damp towel. If you have a fridge-freezer, to efficiently operate the freezer pack it with an indoor-outdoor waterproof pillow from Bunnings. This reduces the air space needed to be "frozen". There's many more ways to operate your fridge more efficiently. Google them.

Position your camper when setting up to minimise the amount of sun hitting your fridge. Put a tarp or shade cloth up to reduce the sun's direct rays hitting the fridge bin. We have insulation covering the doors to see if that improves the operating efficiency.

We also run a min/max thermometer inside the fridge bin to monitor temperatures and have a Dometic "protective cover" although other manufacturers have an "insulated covers". Dometic have similar on smaller units.

More than anything else manage the frequency and time of opening your fridge. Just don't let the cold air escape !

### 13.1. Fridge Power

There are multiple power sources that fridges operate on, be it 12v cigarette plug, 12v Anderson plug or 240v power. The 12v power is provided from the batteries which are pre-charged before leaving home, charged from solar and/or DC-DC while on the road or camped. The 240v is provided via the 240v Victron IP67 AC Charger.

If running on 12v there are differences between the connections – cigarette lighter and Anderson plug.

If using a cigarette lighter plug connection you will need to have the DC Power switched on. And that required the master switch to be switched on also.

If using an Anderson plug you only need the master switch switched on.

### 13.2. Fridge Light

Inside the fridge compartment is a light and proximity sensitive light. Works the same way as the kitchen lights but its power source is the **FRIDGE** switch in the switch board.

The light can be switched on when the ambient light drops and by then waving your hand under the light.

# XH15 Setup & Operation

## 13.3. Fridge Fan

The fan circulates and pushes warm air out from the closed fridge compartment whilst you travel along, thus helping to make a better operating environment for your fridge. There is a switch on the wall of the compartment to switch the fan on or off. This circuit run of the **FRIDGE** switch in the switchboard.

# XH15 Setup & Operation

## 14. Security Door

The XH15 main door is a 2 part door, insect screen and security. They are locked together unless pulled apart to separate the security door from the flywire screen door.

### 14.1. Locking from Outside

1. Make sure that both doors (security & insect) are locked together
2. Close the doors firmly
3. Key in lock
4. Push handle to the **right** until you hear it click
5. Return handle to vertical
6. Turn key around to the **right**, click
7. Return key to centre (vertical) position
8. LOCKED 😊
9. Extract key
10. Confirm locked

### 14.2. Opening from Outside

1. Key in lock
2. Turn key **anti-clockwise** 180 degrees until click
3. Return to vertical
4. Turn handle to the left to open the door
5. OPEN door

### 14.3. Locking from Inside

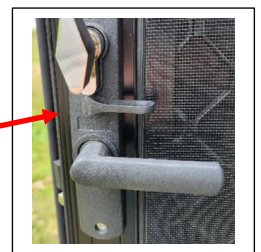
1. Pull door firmly closed
2. Turn handle down until it clicks/stops
3. Turn lock knob (above) to left – should go 180 degrees but camper angle or temp may limit how far you go, but check that it locks
4. Check things are locked

### 14.4. Opening from Inside

1. Turn the lock knob back to the vertical position
2. Lift handle to open door

### 14.5. Separating the Fly Screen Door from The Security Door

1. Open door
2. Lift up the restraining tab (wire) on outside of door, swing door back & attach to camper
3. Turn the lever above the inside door handle upwards to release pins in the outer door & allow you to separate the doors
4. Security door will pull away. Close door.



# XH15 Setup & Operation

## 14.6. Closing Together the Fly Screen Door with the Security Door

1. Bring both doors together and clip at top & bottom – hear them click – important so they don't separate when travelling
2. Close doors & lock

**NOTE:** You'll quickly get used to all this 😊

# XH15 Setup & Operation

## 15. Inverter

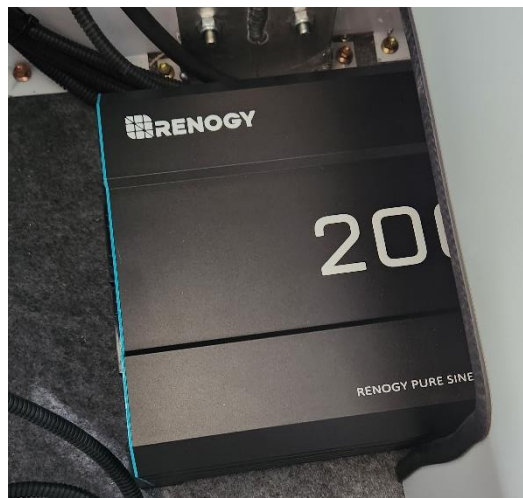
### 15.1. Using the Inverter

The inverter converts 12v power from the batteries to 240v, thus providing a source of power off the grid for 240v appliances. Not all 240v will operate as the inverter has a maximum draw of 2000w, enough for a hairdryer, coffee pod machine or to charge batteries.

**IMPORTANTLY you MUST NOT be connected to 240v supply when using the inverter.**

**Make sure the inverter is in the OFF position to start the process.**

The Renogy 2000 is a sine wave inverter and is mounted under the bed. Sine wave inverters are more efficient than square wave inverters when it comes to the conversion of DC to AC and this **ensures that the power loss is minimised due to greater efficiency.**



You must first plug in a 3 pin 240v cable through the opening at the foot of the bed.



When switched on the switch will have a green light showing. Remote switch is currently not connected. Beside it is a fault indicator light. A red light indicates the inverter is shutting down due to overheating, overload, under voltage or over voltage. A yellow light indicates short circuit or overload starting protection. If the fault light displays red or yellow an audible alarm will sound. Switch off the inverter and disconnect any AC appliances.

The following table explains error conditions.



# XH15 Setup & Operation

Indicator	Potential Issue	Troubleshoot
Fault LED Lit and alarm beeps	Input voltage is below 10.5V	Keep input voltage above 10.5V
	Input voltage is above 14.5V	Keep input voltage below 14.5V
Fault LED Lit, Inverter Shut Down and alarm on	Input voltage is below 10V	Keep input voltage above 10V
	Input voltage is above 15.5V	Keep input voltage below 15.5V
	Inverter overheats	Allow inverter to cool down
		Check for adequate ventilation
		Reduce the load on inverter
	Operating equipment draws too much power	Use a higher wattage inverter or use a lower powered device

Once the inverter is on, connect the 240v appliance to the extension cable.

Monitor the State of Charge (SOC) of your batteries. You can't let them get too low.

When finished with the 240v appliance, switch the inverter to **OFF** & disconnect the cable.

Be aware that the inverter has an AC fuse which may come into the equation if things aren't working. The fuse is a reset button like you'll find on other circuits of the XH15.

## 15.2. Renogy Operating Manual

Get the Renogy User Manual for the 2000w Inverter [HERE](#)

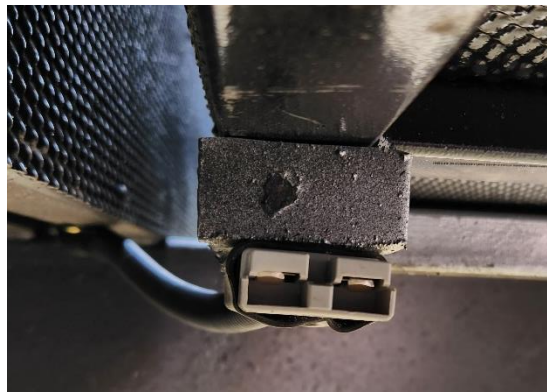
# XH15 Setup & Operation

## 16. Solar Connection

Solar is already connected to the camper. The panels are on the roof and feed into the batteries via the MPPT controller. You can manage the battery input and usage via the Victron app on the phone or the Victron unit inside the door beside the roof switches.

You can add additional panels to the circuit. We have 350w blanket which has an anderson plug connection. When connecting to the camper bypass the MPPT on the blanket, the camper has its own MPPT.

To connect the blanket into the solar feed there is an anderson plug mounted underneath the front driver side bin. Plug the blanket into that plug.



Anderson plug connection under the front bin

The total maximum feed is controlled by the MPPT unit and that is 30A.

Again, you can monitor the topping up of the batteries from the Victron app or the unit mounted inside the door (our config option).

As the battery level gets closer to 100% the MPPT will reduce the feed.

If the car is connected and running there will also be a 12v DCDC feed from the car.

# XH15 Setup & Operation

## 17. Water

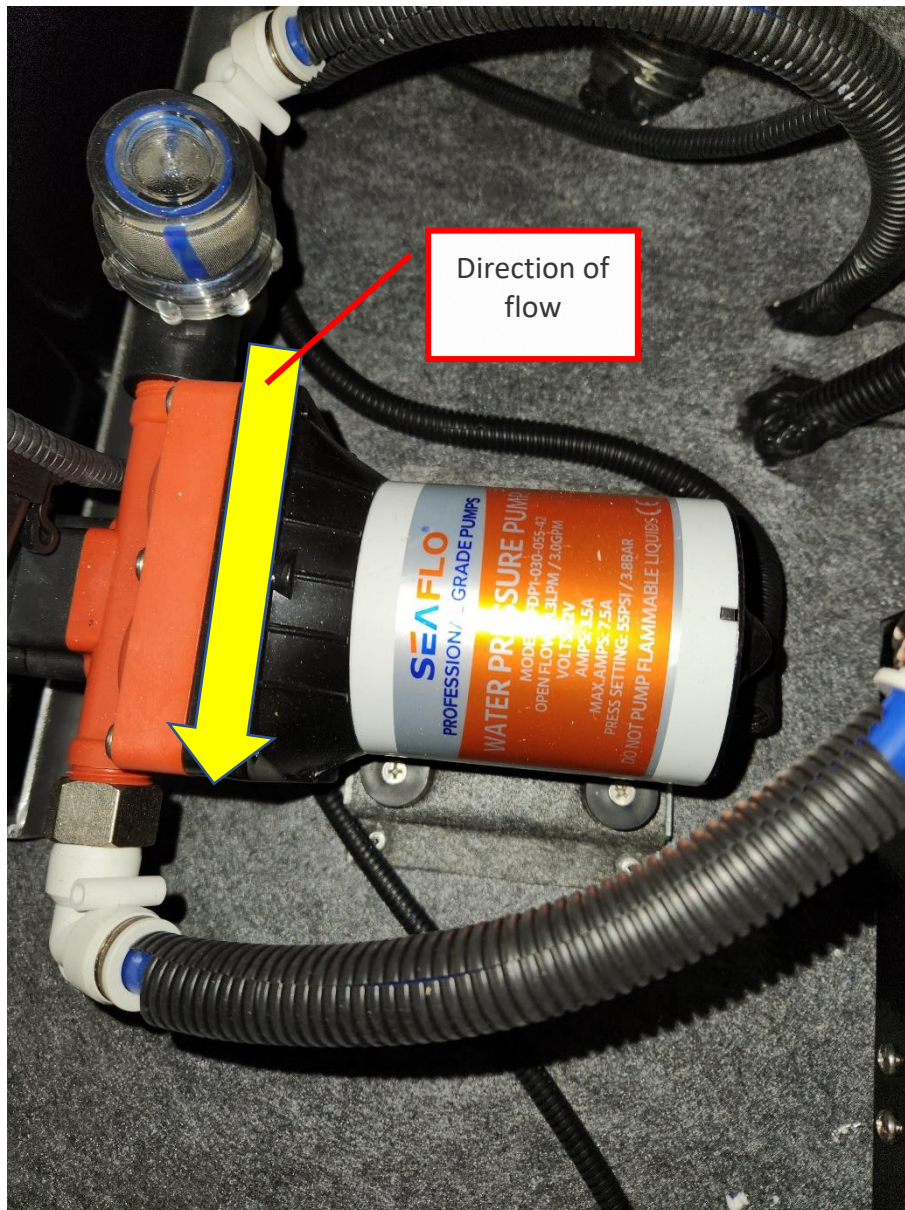
The XH15 has a 200 litre fresh water tank and a 130 litre grey water tank. Grey water is from the shower and sinks.

Fresh water is the **REAR tank**. Grey water is the tank **FORWARD of the wheels**.

The control panel inside the camper, above the sink, displays how much is in each tank.

### 17.1. Using the Water Pump

The pump (SEAFLO) itself is found under the bed with the batteries.



To use the onboard water you must switch on the power to the water pump on the switchboard. To **turn the pump ON** you must flick the left hand switch, labelled “water pump”, in the upper left corner of the kitchen. The water pump will be switched on when the blue indicator light shows. **The switchboard switch AND the kitchen switch are**

# XH15 Setup & Operation

**mandatory to get water UNLESS** you are attached to mains pressure, which bypassed the pump. The pump itself is self priming.

## 17.2. Fresh Water

There are two sources for fresh water. Pre-filled into the tank and you carry it with you (1 kg for each litre : 200 litres = 200kg) and mains pressure feed from a tap.



Top filler is to the tank, lower one is a connection to mains pressure.

The best source is from home before you leave but on extended trips you may need to top up and the water supply is unlikely to be of the quality you get from home.

You may prefer to carry bottled water for tea/coffee and just use the water from the tank for toilet, washing and showers.

If filling the tank with fresh water use the **water filter** set up and also include some **water conditioner** (not part of the equipment provided by Blue Tongue). These are with the hoses & fittings in the driver side front bin (personal packing arrangements).

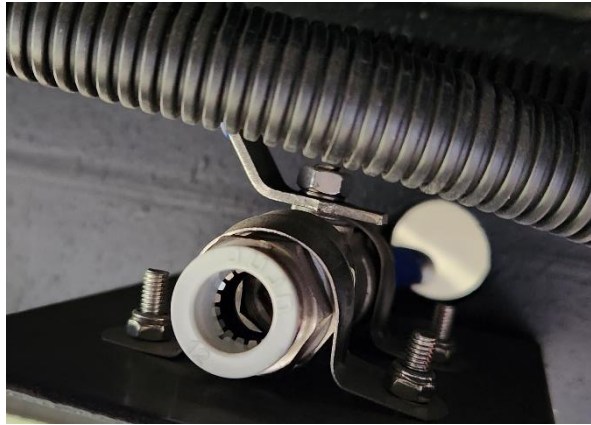
1. You'll need a key to open the locking cap on the water tank.
2. Get the hoses out.
3. Connect up the water filter, ensuring the flow is in the correct direction, ie into the tank – an arrow on the filter shows the flow direction. I use a B.E.S.T. inline filter





## XH15 Setup & Operation

4. Put the end hose into the tank filler.
5. Directly underneath the water feeds of the camper is a breather to stop water pressure building up and blowing water back out of the filler pipe. Open the tap on the breather while you fill up.



Breather

6. As the tank fills you will hear a gurgling sound if the breather is working correctly.
7. Stop the fill at some stage to put the water conditioner into the tank. Calculate the approx. volume to be added – instructions on the bottle.
8. Continue filling until the tank is full.
9. Turn off the water feed.
10. Close off the breather.
11. Put the cap on and lock access to the water tank. (people have been known to put all sorts of things into open water tanks !!! Keep them locked.)
12. Confirm on the inside control panel that your tank is full.

I use WaterPure from BioMagic for the water conditioner but there are other products.  
(NOTE: this is different from tank cleaners. It improves the taste of the water).



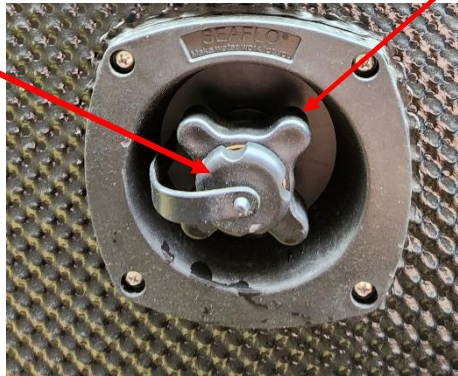
Ensure the water pump is turned on at the switchboard and kitchen to draw water from the tank. The pump is self priming.

# XH15 Setup & Operation

## 17.3. Using Mains Pressure as a Water Source

The alternative to filling the water tank is to use mains pressure water from a nearby tap, typically at a caravan park. Include the filter in the line when using this water source.

1. Connect one end of the hose to the tap
2. Undo the cap on the lower water connection. Hold the inner wheel and undo the smaller outer cover



3. Connect the special 11/16" threaded inlet (brass - Bunnings) – there's also a black plastic one.



4. Connect the hose to the other end of the fitting.
5. Turn on the tap.
6. Water is drawn directly from the mains pressure water source when the taps are turned on. Be careful not to have too much mains pressure. You can get a pressure reducing valve if needed.

## 17.4. Water on the Drawbar

With water available, from the tank or mains pressure, you can draw water from the tap on the drawbar. Could be a hand rinse, a cup full or a bucket full. But it is there.

## 17.5. Dumping Fresh Water

Given that water weighs 1 kg per litre, when you are returning home you may find it desirable to discard that weight and drop your remaining water. You might also do this to get rid of water you have picked up along the way, likely bore water, which tastes quite different to local water.

# XH15 Setup & Operation

There is a ball valve on the back of the tank.



Open the ball valve to dump the water.

{ I will change this ball valve to a Brass Threaded Hex Plug with Teflon tape. This ball valve fitting is just going to be hit by rocks and you'll likely lose all your water ! }

## 17.6. Dumping Grey Water

A black sullage hose on a roll is used to dispose of grey water. You need to purchase one and are available as an optional purchase from Blue Tongue or available at other 3<sup>rd</sup> parties like BCF.



All the necessary fittings are with the unit.

At **caravan parks** you can dump grey water straight into the nearby gully trap.

If **free camping** you can run the sullage hose to the bush away from the campsite.

The ball valve for the grey water is on the driver's side, forward of the wheels, under the hot water system vent.



## XH15 Setup & Operation



In operation, you can either collect your grey water and dump at an appropriate time/location or not collect and just dispose of into the bush then and there.

### To dispose of the grey water:

1. Remove the stopper at each end of the hose and simply push the hose fitting onto the ball valve and run out the hose. Don't lose the stoppers as these go back into each end of the hose to stop any grey water dripping out into the bins after use.
2. Run out the hose.
3. Open the ball valve and your grey water will run through the tank and out of the hose.

When packing up, close the ball valve, disconnect the hose, stop one end and roll up the hose and push out any residual water and then stop the other end.

Importantly, empty the grey water tank before you get home. It is quite unhygienic to have such water just sitting there in the tank.

### 17.7 Seaflo Water Pump Manual

Get more details about how the Seaflo pump works [HERE](#)

# XH15 Setup & Operation

## 18. Dust Prevention

Dust is a big issue for Australian travel and the XH15 is set up to prevent dust ingress to the van. It will pay to check the camper for gaps around electrical wiring and water piping, in fact any gaps you find, and seal with SikaFlex sealant/adhesive.

### 18.1. Sealing the Door

A special cover with press studs fits over the vents at the base of the door. The cover is fitted to the door and only needs to be removed for ventilation purposes if you are running a diesel heater (fumes). This is supplied by Blue Tongue in your kit.

As this just clips over the vents there is a **Plan B** which is better sealing, particularly if travelling on unmade outback roads. Use reinforced black tape from the supplies you carry. That seals the vent soooooo much better.



An example of Plan B using duct tape ...

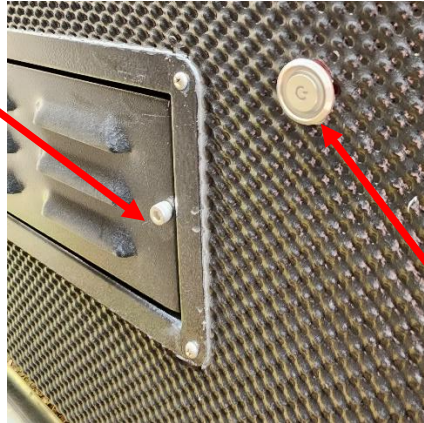


### 18.2. Pressurising the Van

The XH15 has a pressurising system which builds up pressure inside the van while travelling thus the positive pressure levels prevents dust from entering the van. The inside pressure being greater than the outside. You can also do this in the car by switching to recirculate and turning up the fan.

## XH15 Setup & Operation

The unit can be found on the driver side near the rear. A filter sits behind the panel. You need an allen key to open the panel. A spare filter is provided by Blue Tongue.



Activate the pressure before you hit the dirt roads, say an hour or so beforehand. The switch is beside the panel and lights up when switched on. You need to have **DC power** switched on at the switchboard.

When you are stopped, switch the unit off.

# XH15 Setup & Operation

## 19. External Shower

**WARNING:** The standard external shower provided by Blue Tongue Campers is really for rinsing off as the length of the hose is too short to reach the Blue Tongue shower tent. But all is not lost. If you want to use the standard product you can easily purchase a “shower hose extension” on the web. Take care when ordering that the fitting (male/female) connect to the Blue Tongue setup. A 1.75 metres extension might only cost \$13.

Once you have an extension the setup is easy .....

Open the cover at the back corner on the driver’s side to access the shower rose.

Turn on the water pump and hot water.

**OPTIONAL:** Set up the shower tent – see Annexe Instructions

1. Have some rubber mats on the ground so that you don’t end up in mud.
2. Turn on the taps and use the fitting on the rose to control the water flow. Adjust the temperature via the taps.
3. Wet up. Stop the water flow. Soap up. Rinse off.
4. When finished, turn off the taps and drain the hose by opening the rose.
5. Put away.

**NOTE:** The standard Blue Tongue shower tent is quite big, heavy and takes up space. You might consider a free standing shower tent or even mount something like a Kickass or Kings unit off the rear of the camper. With these you might not need the hose extension.

# XH15 Setup & Operation

## 20. Jacking Points

In the event of a puncture you will need to jack up the van to change the wheel.

If replacing the wheel get the replacement off the rear of the van first. You don't have to jack things up to do that.

Chock the wheel on the other side front & back to prevent any movement. You could even use rocks. Likely the camper will be attached to the tow vehicle anyway so it should not move. If not, chock the jockey wheel too.

Make sure you place the jacking base plate under the jack – you need to carry one (piece of checker plate, piece of sleeper or 12 ply). It is important to have the jacking plate on **LEVEL** ground. That way you can ensure that the jack itself operates in a vertical plane.

You may use wooden chocks to provide a bigger contact point with the jacking point. Advisable to carry a few pieces of 4x2. Position one on top of the saddle (top of the piston).

Loosen the wheel nuts slightly before jacking the van up.

The jacking points are the lower part of the swing arm behind the wheel. (or anywhere on the flat of the red arm – Sheree).



## XH15 Setup & Operation



Jack contact point

The assumption is you are using a bottle jack, likely a minimum 2 tonne from the car.

Make sure you tighten the release valve before you start pumping the piston.

Carefully position the jack. Pump the piston to raise the jack and lift the camper making sure the contact point is firm. A block of wood on the saddle at the top of the jack will compress whereas the metal saddle on metal itself might slip. Be careful. **Make sure your jack is operating vertically, if not, correct the situation and restart the lift. MISTAKES CAN BE DANGEROUS AND VERY COSTLY.** You may even need to dig out beneath the jack to provide enough room to get the jack into a suitable lifting position. Ensure you have a jacking plate under the jack and it is horizontal so that you start with a good base.

Once the wheel is clear of the ground, and if the tyre is flat you will have to lift further to get the replacement wheel on, undo the wheel nuts and remove the wheel. You might find it easier to loosen the nuts before raising the wheel.

What happens next depends on the state of the tyre:

- If a simple puncture you might be just plugging the tyre.
- If not pluggable you might be inserting a tube and that is a more complex operation needing a bead breaker.
- The alternative might be simply putting on the spare until you get to a service centre. If the sidewall is damaged you need the spare !

If using the spare, suggest pushing the wheel which was removed under the camper suspension to prevent the camper crashing down onto the ground should the jack fail.

### **NEVER GO UNDER THE VAN WHILST IT IS ON THE JACK**

If inspecting the camper's underside or suspension you can do that without jacking the camper up.

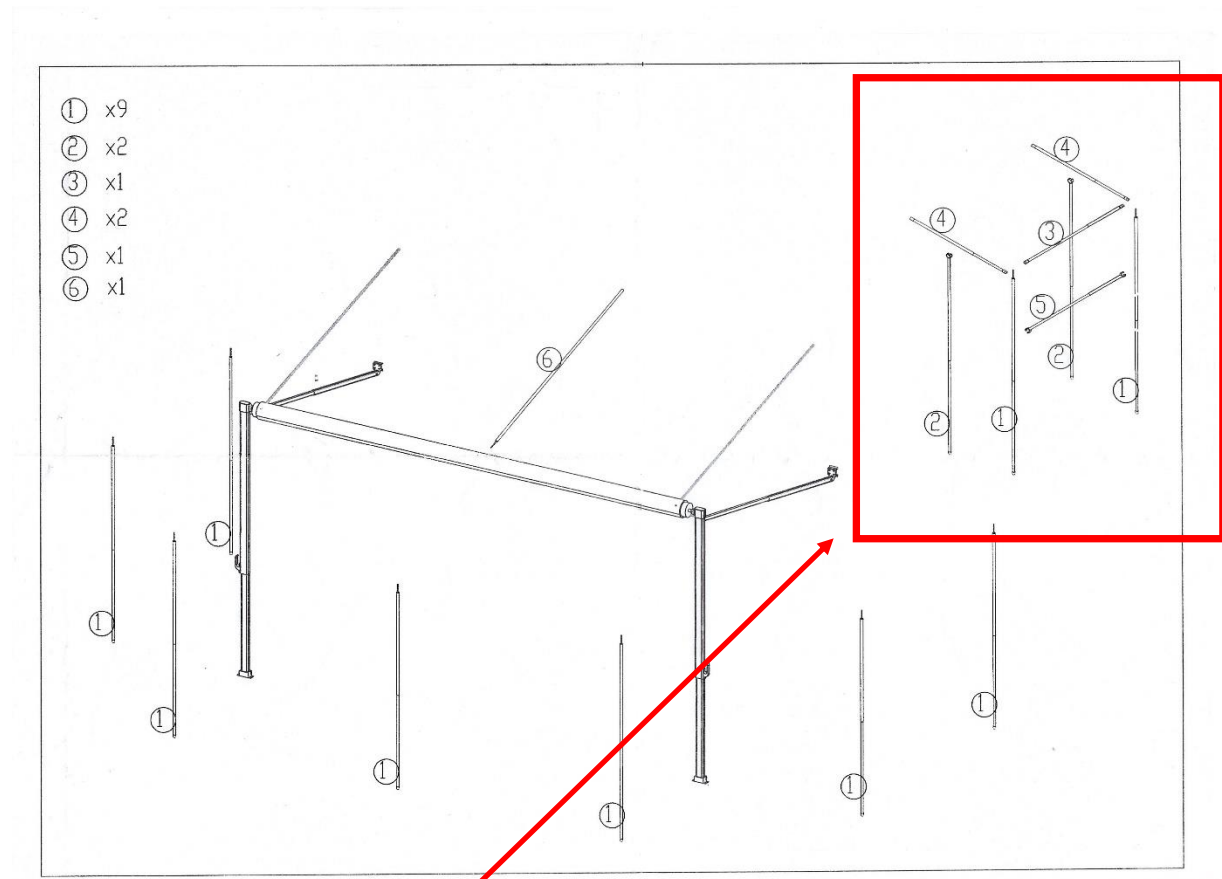


# XH15 Setup & Operation

## 21. Setting up the Annexe

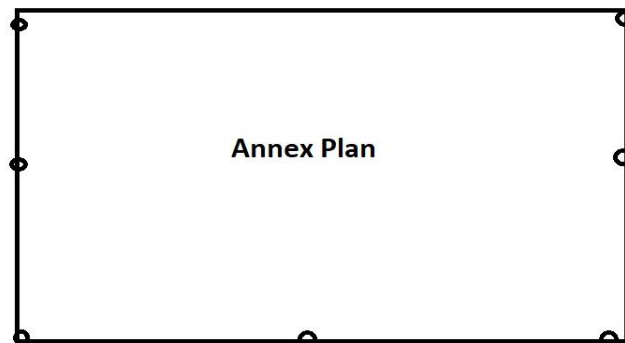
All the canvas is provided by Blue Tongue together with the necessary poles, ropes and pegs. A pole diagram is in with the poles. You'll need to provide the mallet.

Here's the pole plan .... you'll find it with the poles in the bag and numbered accordingly.



The external shower setup is highlighted.

The general annex plan





# XH15 Setup & Operation

## **Annexe**

The annexe just uses poles 2 + 3 + 2 (7) number 1 poles & 1 x number 6. 2 @ the front (near fridge), 2 @ the rear, 3 @ the side plus a number 6 supporting the awning. Work these into the canvas as you attach it to the awning.

## **Shower**

The shower is a little more complicated to set up. You need 2 x number 1, 2 x number 2, 2 x number 3 and 2 x number 4 poles. The number 4s connect into the slots at the top of the rear of the camper.

# XH15 Setup & Operation

## 22. Setting Up the Anti-Flap Kit

As the name suggests, an anti-flap kit is an accessory that limits the amount of flapping your awning does when it's windy outside. It provides excellent awning stability and protects the awning from being torn or ripped. The bars use a clamping system to hold down the outside edge of your awning and eliminate flapping & damage once and for all.

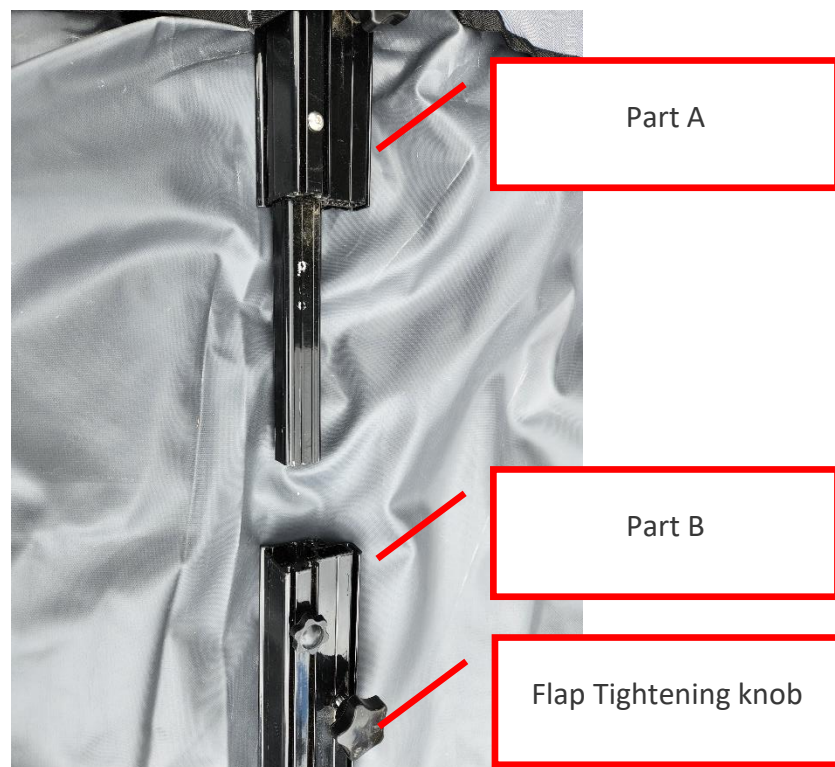
The issue with installation on the XH15 is that **you will need a ladder** to be able to install the anti-flap kit. Not carrying a ladder ? You might try attaching a milk crate onto your drawbar with an elastic strap and using that. Might be just enough to give you sufficient reach, it also provided somewhere to store some wood or odds and ends and easy to get on & off. Else you have to find somewhere to carry a small ladder.

### Installation

The anti-flap kit is provided by Blue Tongue and comes as 4 parts which fit together to form 2 cross members that fit between the camper and the roll tube of the awning.

Ensure that the awning has been fully extended.

Get the anti-flap kit out from the storage tunnel.



Join the two parts together to make the anti-flap rafter. You'll do this a second time for the second rafter and thus one for each end of the annex.

If you are using the supplied awning extensions for protection from sun or rain, particularly over the fridge area, you can attach the canvas extensions to the anti-flap unit. When packing up, leave them threaded through the anti-flap bar and just roll them up and store in the tunnel bin. When you arrive at your next camp you don't have any messing around, just clip in the already assembled anti-flap bar and quickly support the awning extension with poles & ropes.

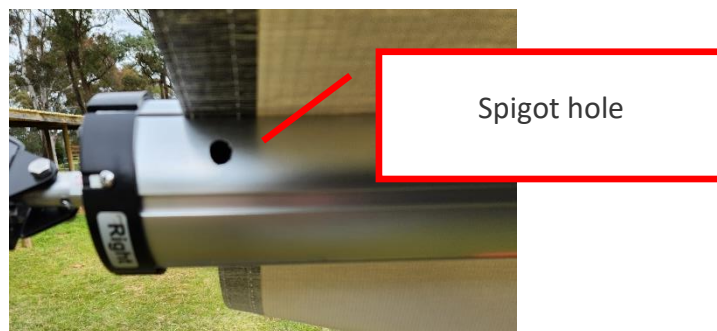
## XH15 Setup & Operation



There is a tightening knob which you do up when sizing the distance or length of the anti-flap rafter.

Start by selecting one rafter. If the blue pin lever is on the left of the rafter you have the forward rafter or the one nearest the fridge. The pin lever on the right is on the rafter for the rear.

Before starting to install the rafters ensure that the awning is fully extended so that the hole in the roll tube is correctly positioned to expose the hole to take the spigot on the rafter. There's a hole at each end of the roll tube.



Insert the hook end of the rafter to the mounting plate on the camper body, it's near the lock on the roof panel.

Draw out the rafter and insert the spigot into the hole in the roll tube. Lock the length of the rafter by tightening the Length Tightening Knob.

## XH15 Setup & Operation

Now step back a bit and undo the pin from the roll tube to release the rafter. Loosen off the Flap Tightening Knobs.

Now you need the ladder .....

You need to reinsert the spigot pin into the roll tube. Slide the awning edge into the edge of the rafter, it will be quite easy as you have opened up the gap inside the rafter for the awning edge to sit. When positioned, tighten the Flap Tightening Knob.

Repeat for the other end.

All done.

# XH15 Setup & Operation

## 23. Keys

You will get soooooooooo many keys. It is important to work out what you need. Our keys are colour coded around the head (Bunnings - \$2.50) unless identifiable with numbers or size or cut.

You need to have

- Door (largest key – chrome)
- Fridge/Switchboard/Tunnel bin/Kitchen drawers/ Lock at top of bed end panel when opened up (black key labelled 333 or yellow)
- Shelf - between door and kitchen – 2 locks (blue)
- Kitchen flap/Bed flap – 3 locks each side (smaller black key numbered 60)
- Outdoor shower (special flat cut key)
- Water cap (red)
- Toilet cassette access door (labelled Thetford/black)
- Padlock on hitch (green)

Include a name tag with each set of keys with just given name & mobile number.

### Suggest

- A set for in your car (spare)
- A set kept inside the camper
- A set for each adult - lanyard
- A spare door key hidden under the van which will at least get you into the van and access to a full set of keys in an emergency.



Emergency access door key tied up and hidden

Front bins are all locked with combo locks.

# XH15 Setup & Operation

## 24. Power Management

### 24.1. XH15 Set Up

Our XH15 setup has lithium batteries and Victron power management. This was a Blue Tongue option and other campers may not have the configuration.

Power management is an important aspect of off grid camping.

The most power drawn from the batteries will be by your fridge, water pump and lights, although the latter not very much.

Some owners will have the TV and/or radio running. Recognise that they consume power.

The fridge is the main consumer of power, particularly in hot conditions. It will cycle on/off frequently during the day. Less so at night. The more often the fridge gets opened the more cold is lost and the more cycling on and off will occur, thus more power gets drawn from the batteries.

Temperature settings, size of fridge, ambient temperatures and ventilation play a big part in the consumption equation. Try to keep the fridge well ventilated and shaded.

Power will be drawn from the batteries and it all depends on what you have purchased as to how long you can last. To offset the consumption of power, we have solar panels charging the batteries. Other sources for topping up the batteries can be vehicle DCDC or 240v, but the latter is not off grid.

Battery components & management options will vary depending on your own choices.

Our configuration is

- 3 x 100ah Lithium batteries
- Victron BMV712 Smart Bluetooth Battery Management
- Victron Solar MPPT 100/50 12v
- Victron IP67 AC Charger
- Victron Orion-Tr Smart 12/12-30A Galvanic Isolated DCDC Charger.

The units communicate to the Victron apps on the phone via Bluetooth connectivity and can be managed and configured from the phone.

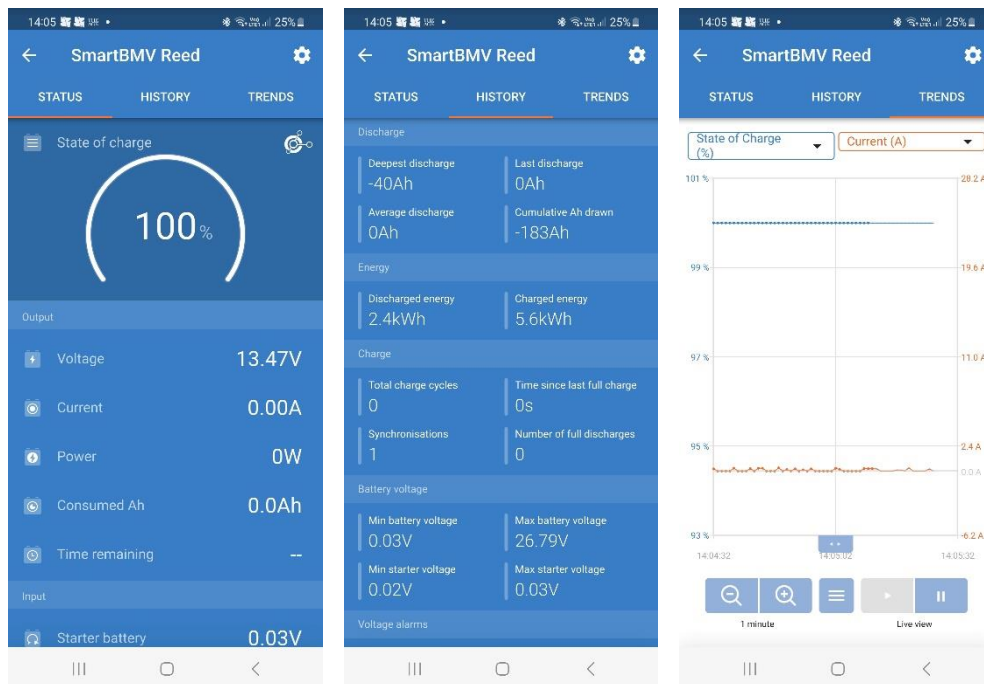
Status, alerts and notifications about the battery status can be monitored on the phone when in close proximity.

The State of Charge (SOC) reading in the BMS tells you how your batteries are holding up – volts left in batteries. You can also monitor consumption (amps used) and the power input (from DC charging, 240v charging or solar feed) to see how the batteries have been topped up and how quickly.

The amount of solar collected will depend on the positioning of the camper (rooftop panels) and weather conditions. Our setup has 2 x 200w panels on the roof and we carry a 350w solar blanket.

Siting the camper under shading trees will limit the amount of solar collected by the panels and thus the amount of charge input to the batteries. A cloudy day will limit the collection even more.

# XH15 Setup & Operation



Interpreting these apps is the subject of another document.

## 24.2. Operating Manuals

You can go to the Victron website and download soft copy version of the various components of your setup.

- [Victron BMV712 Smart Bluetooth Battery Management](#)
- [Victron Solar MPPT 100/50 12v](#)
- [Victron IP67 AC Charger](#)
- [Victron Orion-Tr Smart 12/12-30A Galvanic Isolated DCDC Charger.](#)

Also the PYLON Tech lithium batteries [HERE](#)



# XH15 Setup & Operation

## 25. Fuses

The electrical setup generally uses breakers and resets. You see these on the switchboard but there are a number of other fuses or breakers. The most obvious being the 240v breaker.

The assumption is that people know how to reset the breakers, if the switch isn't showing a blue light when switched on, something has happened on the circuit. **INVESTIGATE** why before doing anything else. Is there a short in the wiring? If OK, then press the reset and see if the circuit come back live. If not, re-examine things, it could be a different 12v outlet or light. The breakers are there to protect your fittings/equipment.

There are also a number of other fuses out of sight.

There is a **3a blade fuse (mauve)** in the Thetford unit. Get one and just tape it inside. No spare fuse, no toilet operation .....

There is also a **15a blade fuse (blue)** in the back of the multimedia unit. Again, get one and tape it to the unit.

And a word of warning. Fuses are circuit protection. If one blows, check the root cause before putting in a replacement. Else that's likely to blow again. Possible causes can be wiring shorting or loose connections.

In with the electrics, **under the bed**, are a number of **MIDI** fuses

- 200a on the inverter (known as a **mega-fuse** – 68.8mm long)
- 70a the car/solar feed (standard midi)
- 50a the house battery (standard midi)
- 30a on the 240v charger (standard midi)

**Be careful** – these fuses are associated with a lithium setup and a 2000w inverter. It would pay to carry spares of these midi fuses as, unlike the coloured blade fuses, they are not stocked everywhere.

Check **YOUR setup** to see what spare fuses you should carry.

Also remember fuses for your fridges – Dometic have **10a (red) blade** and Engel have a special **10a Thermal Fuse** which can be found in the DC cord plug. Unlikely you'll get the Engel fuse at a servo.

**And your SOLAR.** There are 2 fuses on the roof feeding your solar to the MPPT. We have 2 x 200w panels on the roof, hence 2 fuses. These are special PV fuses. So if you are having issues charging this could be a place to check as a final resort.

# XH15 Setup & Operation

## 26. Smoke Alarm

The Blue Tongue camper comes with a smoke alarm in the roof. It is worthwhile checking the battery from time to time. You will need a 9 volt battery – Duracell MN1604 or Energizer Max 9v.

To test, press the button.

To remove the facia, tur to undo.

# XH15 Setup & Operation

## 27. Tyre Pressures

Tyre pressures are important but do you know what you should be running at for any given road surface and load. Yes, load. It is an important factor in the equation.

There are many rules of thumb and people will make a call on what pressure to run based on how well the camper tows.

The compliance plate attached to the camper has a max of 550kpa or 80 psi

**Some examples found on the Blue Tongue Facebook website**

58psi on blacktop

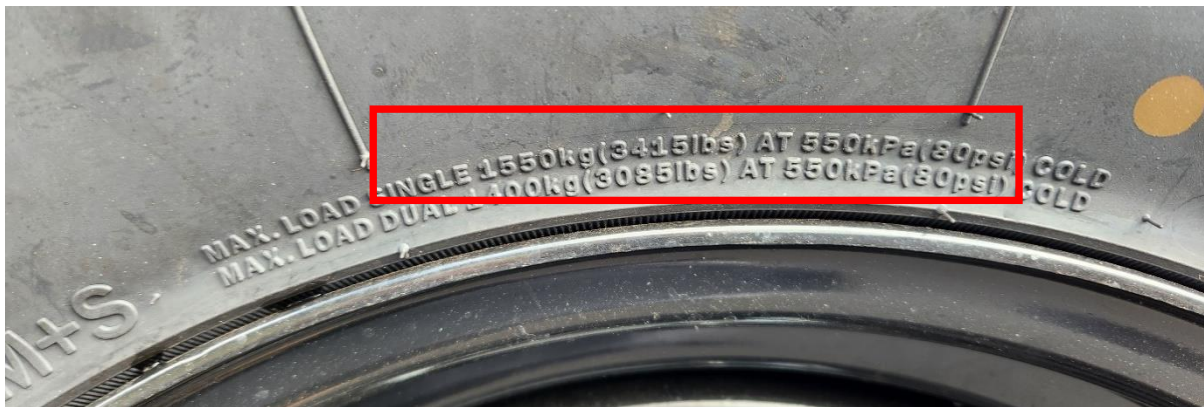
70 psi and it does not sway much

65 psi on blacktop

Regardless of the compliance plate, the maximum pressure should be the load rating of the tyres, so you need to check whether you are running AT or muddies, rim size etc.

Manufacturers have tables based on tyre size.

The XH15 muddies provide load details



### 27.1. To Calculate Tyre Pressures for a Given Weight ...

Inflation Factor = Max Pressure for tyre (80) divided by 90% load rating) = 80 PSI / 1395 = 0.05735

Max PSI = Inflation factor times half the GTM weight of the camper(2700) – one tyre (single axle) =  $0.05735 \times (2700 / 2) = 74.49$  PSI

**The maximum tyre pressure for a fully loaded Blue Tongue XH15 is 75 PSI**

Recalculate for the travelling weight (x) to get your correct running pressure, ie  $0.05735 \times (x/2)$  in the above calcs. If loaded to 2400kg then the running tyre pressures should be  $0.05735 \times (2400/2) =$  say 68.8 PSI.

If running @ 2200kg (close to empty) then that brings the pressures down to 63 PSI.

Then, of course, adjust the tyre pressure based on road surface conditions and tyre conditions themselves, ie gravel/sand/mud, new treads/little tread left.

# XH15 Setup & Operation

In the past I have tried to equalise the camper to the tow vehicle footprint, ie the length of the tread touching the road. The track surface will dictate appropriate vehicle pressures to use and then pair the camper accordingly. These pressures should be considered a rough guide only.

The following is an example of camper (NOT XH15) & vehicle tyre pressure with same footprint. Matching the vehicle and camper footprint is the ideal towing arrangement for your rig. This was for Cooper AT3 tyres. The tug was a Pajero. Coopers Tires provided the recommended tyre pressures for the track surfaces.

Track Surface						Vehicle		Footprint (mm)	Camper	
Bitumen	Smooth Gravel	Rough Gravel	Rocky	Mud	Sand	PSI	kpa		PSI	kpa
X						40	275	205		
X						38	262	210		
X	X					36	248	215	80	551
X	X					34	234	220	70	483
X	X	X				32	220	225		
		X				30	206	230		
		X	X	X		28	193	235	60	414
		X	X	X	X	26	179	245		
			X	X	X	24	165	250	50	345
			X	X	X	22	151	255		
				X	X	20	137	260	40	275
					X	18	124	270	30	206
					X	16	110	285		
					X	14	96	300		

This gives you an idea of the complexity of the tyre pressure calculations and to get a base line you would have to have both the tow vehicle and van fully loaded.

On a wet dirt track you might be dropping your vehicle down to 24-26psi, remembering you can quickly drop more air out but it is painful getting the compressor out to add air. Drop your pressure a bit and drive the conditions, review and reassess.

# XH15 Setup & Operation

## 28. Bearings

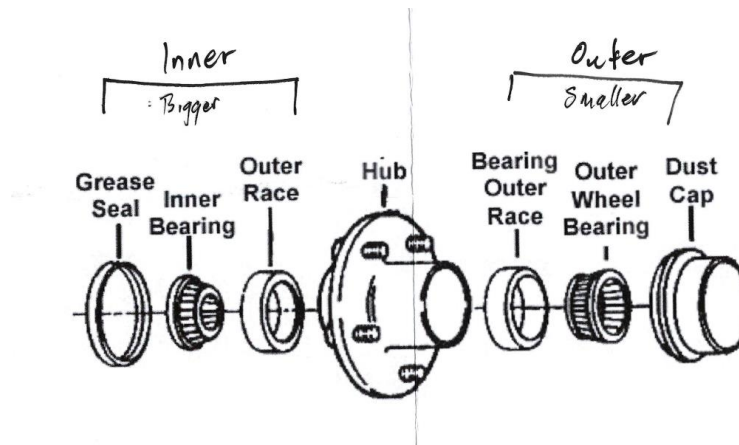
You don't want to be caught with a busted bearing. To continue to tow could result in further damage. But then again you may not know how to change a bearing so you have to continue to the next place you can get the repairs done, slowly and carefully.

If you know how to change a bearing then likely you are also carrying spares.

Regardless of who is fixing the problem you need to know the bearings required so that if you are ringing ahead, people can check supplies and, possibly, order ahead or if you are just ordering a set you can provide supplier/part numbers.

On ordering our XH15 I ordered 2 sets of bearings. If one is going, likely the other side should be changed as well. They are **NTN Replacement Japanese Wheel Bearing Kit suit 12" Hub.**

Your bearing setup is as follows



## OUTER BEARINGS



# XH15 Setup & Operation



## INNER BEARINGS





# XH15 Setup & Operation

## GREASE SEAL



You will also need special **Bearing Grease** (Supercheap etc) and have some latex gloves to keep your hands clean. You'll need some rag to clean up/wipe grease off the axle, possibly some kero or brake cleaner or similar to cleanup the mess up.



# XH15 Setup & Operation

## 29. TV Setup and Operation

**Warning:** You may need a ladder (see earlier about the possibility of using a milk crate) or steps to set up the antenna.

### 29.1. Setup the DT8 Antenna

The antenna is in 4 parts

A UPVC white pole with attached bracket which connects to the J-mould at the top of the roof. The base sits into the fitting  $\frac{1}{2}$  way down the back of the camper.

UPVC white pole with tube flange coupling to go over the top of the lower pole.

An adjustable connection which is fitted to the U Clamp in the receiver unit. The other end fits into the top of the UPVC pole.

Antenna receiver unit – pre-assembled – sits on top of everything.

The receiver unit can be mounted either horizontally or vertically.

The receiver unit can pick up VHF and UHF TV channels.

Extend the arms on the VHF element of the receiver if in cities. You don't need the arms for country reception as there will be no channels on that frequency.

Insert the long cable into the UHF/VHF "out" connection on the aerial. Attach the boot.

Lock upper pole into the receiver unit.

### 29.2. Mounting the Antenna

Mount the lower section of the pole into the J bracket first and then slip the base of the pole over the mounting post half way down the back of the camper.

Here's where you'll need the ladder. Climb up and position the upper pole, with receiver attached, onto the top of the lower pole. The sleeve slips over the top of the lower pole. From a long term fitting point of view the upper part of the antenna only needs to be 70 cm above the roof line. This allows for less movement in windy conditions. Trim to suit.

Connect the aerial cable into the wall connection beside the base fitting.

It is also worthwhile drilling a hole in the base of mounting post to let any water escape.

### 29.3. Connecting the TV

Connect your aerial cable to the internal wall connection and the **ANTENNA IN** port at the base of the TV.

Connect your power supply, either 240v or 12v car adaptor unit (supplied).

If running DVD from the radio unit connect the YELLOW plug into the VIDEO port at the base of the TV. Connect the RED & WHITE audio plugs to the same coloured audio ports at the base of the TV.

# XH15 Setup & Operation

## 29.4. TV Operation

Connect and switch on the power source – either 12v or 240v can be used depending on whether you are off-grid or not. The “standby” light will glow on the lower front right.

Controls are on the side at the lower right. From the top are volume, channel, source (USB, DVD, VGA, TV)/menu and power on/off. You can use the remote instead.

## 29.5. Tuning

Try the **AUTO SCAN** function of the TV first.

Select the **MENU** button on the remote.

Select the **Channel (DTV and ATV)** menu

Select the **AUTO TUNING** option. This will scan and tune into all the available free-to-air TV channels (defaults set for Australia).

Press **OK** to commence scanning.

Optionally, you can perform ATV (analogue) and DTV (digital) manual tuning. Select the mode and then OK to start tuning.

Depending on signal strength you may also choose to rotate the direction of the top pole of the antenna, the bit with the DT8 receiver on top, to pick up the strongest signals. The receiver may be mounted either horizontal or vertical depending on how you have set up the antenna. If your signal is not strong enough reorient the receiver and retry.

Likely you'll need someone observing the signal strength on the TV inside or alternatively purchase a signal booster unit to identify when the signal is strongest.

## 29.6. User Manual

Refer to the Linsar User Manual (provided with your Blue Tongue) for setup and configuration options and how to use the remote or you can download a PDF version of the manual [HERE](#).

For details on the Happy Wanderer DT8 UHF/VHF Antenna go [HERE](#)

# XH15 Setup & Operation

## 30. Multimedia Operation

**This is not a guide to the multimedia unit in the XH15 but it might be an easier read than the supplied user guide. But at least try and read the guide provided. ☹️**

**NOTE 1:** The installed unit is actually a 2 DIN car multimedia unit. It is not specific to a camper.

**NOTE 2:** These notes will simply concentrate on radio, CD/DVD (audio) and USB sources. Excluded are playing DVD movies, viewing JPEG pictures off a CD, AUX function, TV, and SD card input. People can experiment with these functions themselves although some functions like SD cards may not be built into the unit although described in the product User Manual.

**NOTE 3:** Based on the physical buttons on the left side of the unit the CD/DVD, HOME button and ON/OFF-volume knob light up, thus indicating that these functions are available. The USB works but there is no light.

Not working are the MEDIA and MAP buttons. These buttons do not seem to activate anything when depressed.

**NOTE 4:** There is a plastic screen covering the unit's screen. This can be removed and the accompanying stylus will work.

### 30.1. Aerial Setup

You will find the aerial connected into the unit with a long cable. This will be found in the first cupboard behind the multimedia unit.

As with any radio, reception is as good as your aerial. This unit is no different but you have 2 issues.

1. You can't close the cupboard door while you want to operate the radio as the aerial cable had to come out into the open to get good reception. Possibly outside.
2. The aerial base is not magnetic so to position it somewhere you might consider a velcro dot to enable you to fix it out of the way.

You might be able to live with this and see if just sitting the aerial on the roof of the camper is enough to get reception, ie out the sink window on the XH15 & place the aerial on the roof.

**OR** you could work out an alternative means of getting reception into the multimedia unit, and that is what I have done.

Rewire the aerial cabling .....

1. I've drilled a small hole in the wall above the multimedia unit and fitted a grommet.
2. Cut the aerial cable at a length to run between the multimedia unit and the TV aerial connection above the sink.
3. Fed the end with the plug through the grommet and then fitted the cut end to a F-59 Screw Assembly Connector (Jaycar @ \$3.75). This then connected into the TV aerial plug on the wall. No soldering required.
4. I've connected another F-59 Screw Assembly Connector to the aerial end and connected it to the TV aerial connection at the rear of the camper. Using the TV aerial to take the wiring outside.

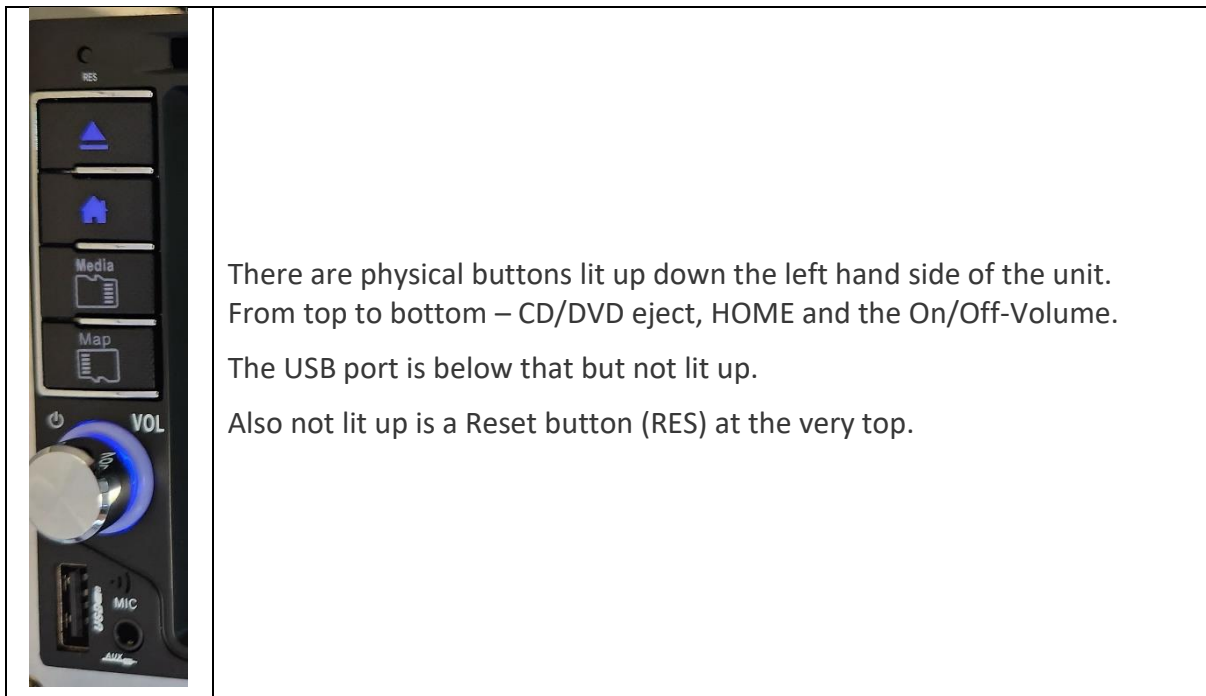
# XH15 Setup & Operation

5. Put some adhesive velcro on the base of the aerial and some on the awning of the kitchen (external top right corner) and mounted it there. External and somewhat better reception. Remove the aerial when travelling.
6. Just don't expect miracles ! You really need a better aerial for better reception.

Keep in mind, you don't have to travel far from regional centres to be without reception, even your car radio. Instead you'll likely be relying on CD/DVD or USB music as sources.

## 30.2. User Interface

The system will default on startup to the state that it was in when shutdown, ie if playing off the CD then it will resume playing off the CD, if the radio was playing when shutdown, that frequency will be tuned into on startup, or if the unit was powered off when power was shutdown then it will remain off when power is switched on.




Press the **HOME** button to bring the interface to the default display.

# XH15 Setup & Operation



The screen is touch sensitive. You can also control the operation of the unit with the supplied remote control unit. Experiment yourselves with that.

The **HOME** screen displays any current source playing, date/time, function icons (Radio, Disc, USB ....). At the bottom on the screen are several icons. The main one to concern yourself is the **cog wheel** in the middle. This is System configuration. To the right is an icon to adjust the audio balance settings. Venture into that screen and you will see a car layout and you can adjust things like balance from front to rear or driver to passenger. Select **ALL** to return to the status quo. To return to the **HOME** screen select the back icon on the  screen or the **HOME** button to the left of the screen.

The **ON/OFF-Volume** button serves two functions, namely to switch the unit on or off by simply depressing the button. It is also the **VOLUME** button and you rotate clockwise to increase the volume or counter-clockwise to reduce the volume. Different units may operate differently, ie the button simply turns and clicks on or off as you rotate the button to adjust the volume.

## 30.3. Radio

The radio provides 3 x FM and 2 x AM bands. You can store 6 channels per band. 18 for FM and 12 for AM.



The screen is divided into three (3) areas.

# XH15 Setup & Operation





The scanned stations buttons (buttons with the frequency) are across the top – 6 presets per band.

In the middle are details of the current station, the current frequency in large numbers and a band scale. The current frequency shows on the scale as a red vertical line.



 	<p>There are forward and back buttons which move the frequency. It steps FM bands at 0.05MHz and 9KHz for AM each time the button is touched. Helps to fine tune the station.</p> <p>If you press and hold the button it will perform a <b>CHANNEL SCAN</b>.</p>
--	--

If the scan doesn't pick up the channel you want, you can drag your finger along the frequency scale until you reach the desired frequency. Fine tune with the arrows. Select any button at the top and hold for 3 seconds to store that channel (frequency) to the button.

	<p>SEARCH button. Press the magnifying glass for 3 seconds to activate a station search and repopulate the preset stations buttons.</p>
<p>BAND</p>	<p>FM1/FM2/FM3/AM1/AM2</p>
<p>ST</p>	<p>STEREO button</p>
<p>LOC</p>	<p>LOCATION button (LOC = local hi strength stations or not)</p>
	<p>Output balancing icon (audio setting interface screen).</p>



# XH15 Setup & Operation

	At the very top is the <b>HOME</b> button and the screen shutdown button .
	The screen shutdown button just turns the screen off but the radio will continue to play. Touch the physical <b>HOME</b> button to reactivate the screen.

## 30.4. CD/DVD Audio

Insert a CD/DVD into the player at the top of the unit.

	Press the triangle button to eject the CD/DVD
---	---

The unit will recognise MP3, MP4 and WMA audio tracks. It will start from the top of the playlist.





Detail of the song are displayed on the screen together with elapsed time and total time. Also, at the top, are icons for the **HOME** screen and the screen power off.

	The screen power off icon simply shuts down the screen while continuing to play music. Press the blue <b>HOME</b> button to bring things back to life.
---	--





In a boxed area in the middle part of the screen are the track title, artist and album. It depends what metadata is associated with your recording as to what gets displayed.

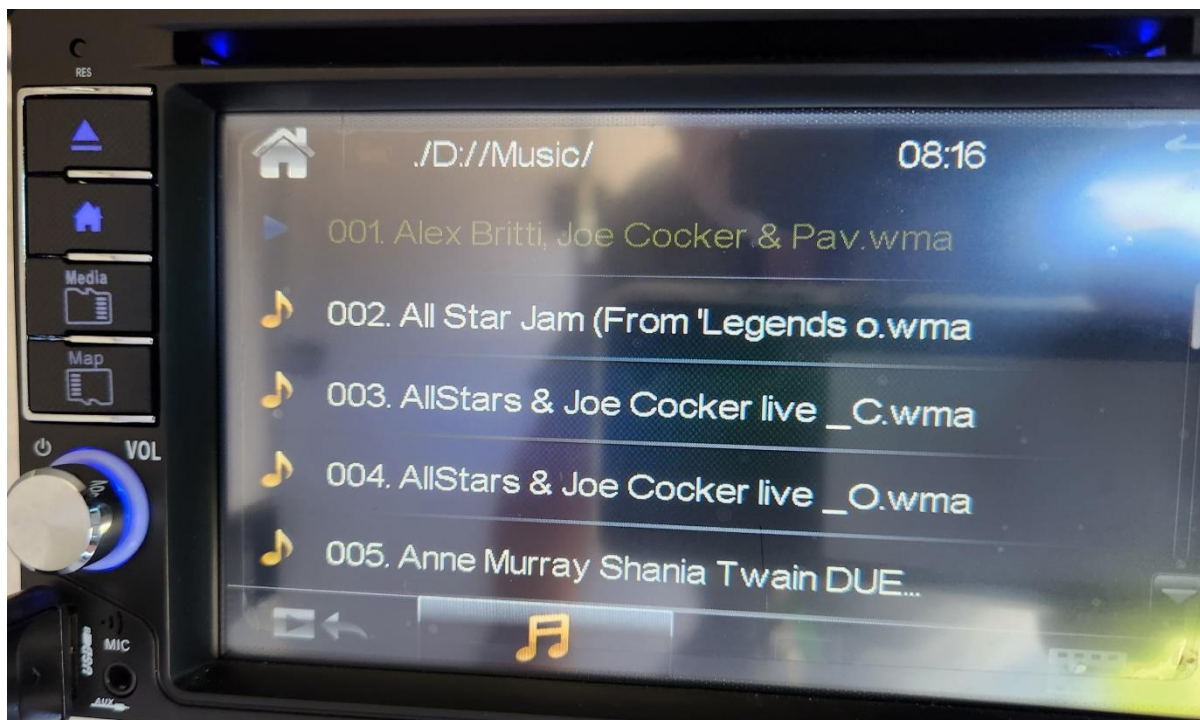
Across the bottom of the screen are navigation touch buttons – back, pause/resume, forward, loop and shuffle

	Back. Hold for faster options x2, x4, x8
	Resume/Pause



## XH15 Setup & Operation

	Forward. Hold for faster options x2, x4, x8
	Loop – replay this track
	Shuffle. Mix up the play list
	Selecting the <b>RETURN ICON</b> at the top right will display the music play list screen and you can select the next track from there.



### 30.5. USB


Insert a USB stick into the USB port at the bottom of the unit.

Select the **USB icon** on the **HOME** screen

This functionality operates in the same way as the CD/DVD only the tracks come from a different medium, the USB stick.


### 30.6. System Setup

Select the cog wheel at the bottom of the **HOME** screen to enter the system configuration options.

	System configuration
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# XH15 Setup & Operation

You should only be interested in setting the **DATE & TIME**.

	Use the down arrow on the right of the screen to navigate to that option, bypassing everything else.
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The **Date & Time** screen has fields for year, month, day, hour, minute and seconds and shows the currently set date & time. Adjust these fields with the associated **UP** and **DOWN** arrows and, when complete, select the **TICK** icon at the bottom of the screen.

Just remember that when you switch off power to the camper in the switchboard it will reset these values and you will have to re-configure when the power is switched back on.

## 30.7. User Manual

A hard copy manual came with the XH15 camper and you should have one also.

**NOTE:** Could not find a suitable softcopy version of the manual to download. 😞 You could scan what you have.

# XH15 Setup & Operation

## 31. In the Toolkit

A few items to consider including in your camper toolkit. Certainly not a complete list but items to consider

- Jacking plates & chocks of wood
- Basic tools like
  - Shifter – small and a larger sized one,
  - various sized screwdrivers (flat & Phillips),
  - pliers,
  - wire cutters,
  - vice grips,
  - hammer
- Texta
- Small file, fine grit wet/dry paper – for cleaning electrical plugs
- Small wire brush and/or steel wool - for cleaning electrical plugs
- Cable ties – various sizes, wire, long piece of coat hanger wire
- Spare Anderson plugs – if changing these in the bush you may need crimpers and/or solder
- Razor blade/knife
- Duct tape/gorilla tape, double sided tape, self adhesive silicon tape, Teflon tape
- 5 minute Araldite
- WD40, also silicon spray for locks and zips
- U-Knead-it epoxy glue
- Selection of nuts, bolts & washers – various length & thread sizes, also some self tapping screws, stainless steel nylon lock nuts (10mm and M4, M5, M6, M8 – get these at Bunnings) – pay to pair nuts with some bolts. For washers, both flat & spring washers of various sizes.
- Power drill ? You'll also need drill bits and screwdriver bits. And don't forget the battery charger which might need to run off the inverter if off grid.
- Gloves & safety glasses
- Several metres of 7.5a and/or 15a 2 core cable

And there is plenty more ..... consider what you need and what you are comfortable working with.

# don't use WD40 on locks if you can avoid it, it ATTRACTS dust ! Use graphite powder.

# XH15 Setup & Operation

## 32. Matters Not Covered

The following matters have not been covered in this document and some, like maintenance & cleaning, can be found in Blue Tongue's own "Owner's Manual".

- Diesel Heaters
- Balancing your load
- General maintenance
- Cleaning – interior & exterior
- First aid kits

# XH15 Setup & Operation

## 33. Checklist for Closing-Up and Hitting the Road

### Packing up tasks

- ☐ Empty the toilet and drop in new chemicals
- ☐ Pack away solar blanket, if used
- ☐ Disconnect hoses and roll up
- ☐ Disconnect 240v power, if used
- ☐ Close 240v input cover
- ☐ Switch off hot water service switch (240v)
- ☐ Close off gas feed – check if you need a refill
- ☐ Switch off gas hot water switch (inside), if used
- ☐ Close hot water vent – cover and hatch when cooled
- ☐ Switch off water pump and lights - switches in kitchen, top left
- ☐ Make sure all light switches are turned off (inside), including toilet/shower
- ☐ Close the bathroom roof vent - ensure fan and light off
- ☐ Switch off all power sources on the switchboard
- ☐ Make sure the main RED switch remains ON for the fridge to allow solar and DCDC charging into the batteries. If not running your fridge turn the RED switch 90° counter-clockwise
- ☐ Close all windows
- ☐ Pack the awning up
- ☐ Ensure all doors and drawers are securely closed – inside & outside
- ☐ Close up the bed
- ☐ Ensure all kitchen cupboards are locked
- ☐ Close up the kitchen
- ☐ Ensure kitchen drawers are locked
- ☐ Pack all rubbish into rubbish bag at rear
- ☐ Lower the roof – make sure the roof is locked and the awning also locked into position
- ☐ Roll up C-Gear matting
- ☐ Ensure front bins are all locked
- ☐ Wind up support legs x 4
- ☐ Connect to DO35 hitch
- ☐ Connect break-away
- ☐ Cross & connect chains
- ☐ Connect Anderson plug & 7 pin plug
- ☐ Test lights
- ☐ Lock camper door
- ☐ Seal for dust (optional)
- ☐ **OPTIONAL** – switch ON pressurising for inside van
- ☐ Put step away
- ☐ Un-chock wheels and put chocks away. Drive off ramp.
- ☐ Check all bins are closed & locked
- ☐ 360° wander around to check that everything has been closed up/put away & site is clean & tidy and you are ready to travel. 😊

**DRIVER ONLY RESPONSIBLE**